f626.8
P96r
905/06-07/08

# REVENUE REPORT

OF THE

# IRRIGATION DEPARTMENT, PUNJAB,

# FOR THE TRIENNIAL PERIOD

# 1905-1906 TO 1907-1908.

Price:—Rs. 3-12-0 or 5 shillings 6 pence.

Lahore:
PRINTED AT THE PUNJAB GOVERNMENT PRESS.
1909.

THE UNIVERSITY
OF ILLINOIS
LIBRARY
9-626.8
P96r
1905/06-07/08

LIBRARY
UNIVERSITY OF ILLINOIS
URBANA

# REVENUE REPORT

OF THE

# IRRIGATION DEPARTMENT, PUNJAB,

FOR THE TRIENNIAL PERIOD

1905-1906 TO 1907-1908.

## Agents for the sale of this Report.

### In London.

Mr. E. A. Arnold, 41 and 43, Maddox Street Bond Street, W.

Messrs. Constable & Co., 10, Orange Street, Leicesters Square, W. C.

Messrs. P. S. King & Son, 2 and 4, Great Smith Street, Westminister, S. W.

Messrs. Kegan Paul, Trench, Trubner & Co., 43 Gerrard Street, Soho, W.

Mr. B. Quaritch, 15, 11, Grafton Street, New Bond Street, W.

Messrs. Deighton Bell & Co., Cambridge.

Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford.

Messrs. Henry S. King & Co., 65, Cornhill E. C.

Messrs. Grindlay & Co., 54, Parliament Street, S. W.

Mr. T Fisher Unwin, No. 1, Adelphi Terrace, London, W. C.

Messrs. W. Thacker & Co., 2, Creed Lane, London, E. C.

Messrs. Lusac & Co., 46, Great Russel Street, London, W. C.

### On the Continent.

Messrs. Friedlander & Sohn, 11, Carlstrasse, Berlin.

Mr. Ottu Harrassowitz, Leipzig.

Mr. Karl W. Hiersemann, Leipzig.

Mr. Ernest Leroux, 28, Rue Bonaparte, Paris.

Mr. Martinus Nijhoff, The Hague.

Mr. Rudolf Haupt, No. 1, Dorrienstrasse, Leipzig, Germany.

### In India.

Messrs. Thacker, Spink & Co., Calcutta and Simla.

Messrs. Newman & Co., Calcutta.

Messrs. R. Cambray & Co., Calcutta.

Messrs. S. K. Lahiri & Co., Calcutta.

Messrs. B. Banerjee & Co., Calcutta.

Messrs. Thacker & Co., Bombay.

Messrs. A. J. Combridge & Co., Bombay.

Messrs. D. B. Taraporevala & Sons, Bombay.

Mrs. Radhabai Atmaram Sagoon, Bombay.

Mr. Sunder Pandurang, Bombay.

Messrs. Gopal Narayan & Co., Bombay.

Messrs. Higginbotham & Co., Madras.

Messrs. V. Kalyanaram Iyer & Co., 189, Esplanade Row, Madras.

Messrs. Natesam & Co., Madras.

Messrs. Thompson & Co., Madras.

Messrs. S. Murthy & Co., Madras.

Messrs. Temple & Co., Madras.

Messrs. Combridge & Co., Madras.

Messrs. P. R. Rama Iyar & Co., Madras.

Messrs. A. R. Pillai & Co., Trivandrum.

Superintendent, American Baptist Mission Press, Rangoon.

Messrs. A. Chand & Co., Imperial Book Depôt Office, Delhi.

Messrs. Gulab Singh & Sons, Mufid-i-'Am Press, Lahore.

Messrs. S. Mumtaz Ali & Son, Rafah-i-'Am Press, Lahore [for Vernacular publications only].

Lala Mohan Lal, Punjab Law Book Depôt Lahore.

Manager, "The Aryan Printing, Publishing and General Trading Co., Limited," Lahore.

Messrs. A. Chand & Co., Agents, Lahore.

Babu S. C. Talukdar, Proprietor, Student & Co., Cooch Behar.

### In Ceylon.

Messrs. A. M. & J. Ferguson.

6268
P96R
1902/86-07/08

# TABLE OF CONTENTS.


| | Page. |
|---|---|
| Resolution by His Honour the Lieutenant-Governor of the Punjab and its Dependencies ... ... ... ... ... ... | 1—5 |

CHIEF ENGINEER'S TRIENNIAL REVENUE REPORT.

| | |
|---|---|
| Western Jumna Canal ... ... ... ... ... | 1 |
| Sirhind Canal ... ... ... ... ... ... | 3 |
| Upper Bari Doab Canal ... ... ... ... ... | 5 |
| Lower Chenab Canal ... ... ... ... ... | 6 |
| Lower Jhelum Canal ... ... ... ... ... | 8 |
| Upper Sutlej Inundation Canals ... ... ... ... | 11 |
| Sidhnai Canal ... .. ... ... ... ... | 12 |
| Indus Inundation Canals ... ... ... ... ... | *ib.* |
| Shahpur (Imperial) Canals ... ... ... ... | 14 |
| Shahpur (Provincial) Canals .. ... ... ... ... | 15 |
| Lower Sutlej Inundation Canals ... ... ... ... | 16 |
| Chenab Inundation Canals ... ... ... ... ... | 17 |
| Muzaffargarh Inundation Canals ... ... ... ... | *ib.* |
| Ghaggar Inundation Canals ... ... ... ... ... | 18 |
| Ravi (Provincial) Canals ... ... ... ... ... | *ib.* |
| Rangoi Canal ... ... ... ... ... ... | 19 |


## APPENDICES.

MAJOR IRRIGATION WORKS.


| | | | |
|---|---|---|---|
| APPENDIX | 1. | Capital Account (Direct and Indirect) ... ... | ii |
| ,, | 2. | Gross revenue realizations (Direct and Indirect) ... | iii |
| ,, | 3. | Cost of Working Expenses (Direct and Indirect) ... | iv |
| ,, | 4. | Net revenue realized (excluding interest charges) ... | vi |
| ,, | 5. | Ditto (after paying interest charges) ... | vii |
| ,, | 6. | Balances of occupier's and owner's rates outstanding at the end of each year ... ... ... ... | *ib.* |
| ,, | 7. | Revenue Assessments (Direct and Indirect) ... ... | viii |
| ,, | 8. | Average occupier's and owner's rate per acre ... ... | x |
| ,, | 9. | Western Jumna Canal. Areas on which occupier's rates were remitted ... ... ... ... | xi |
| ,, | 9A. | Western Jumna Canal. Areas on which owner's rates were remitted ... ... ... ... | xii |
| ,, | 9B. | Sirhind Canal. Areas on which occupier's rates were remitted ... ... ... ... | xiii |
| ,, | 9C. | Upper Bari Doab Canal. Areas on which occupier's rates were remitted ... ... ... ... | xiv |
| ,, | 9D. | Lower Chenab Canal. Areas on which occupier's rates were remitted ... ... ... ... | xv |


RC0839

| | | | Page. |
|---|---|---|---|
| APPENDIX | 9E. | Lower Chenab Canal. Areas on which owner's rates were remitted ... ... ... ... | xvi |
| ,, | 9F. | Lower Jhelum Canal. Areas on which occupier's rates were remitted ... ... ... ... | xvii |
| ,, | 9G. | Upper Sutlej Inundation Canals. Areas on which occupier's rates were remitted ... ... ... | xviii |
| ,, | 10. | Areas irrigated, supply and duty ... ... ... | xix |
| ,, | 11. | Length of channels in operation ... ... ... | xx |
| ,, | 12. | Western Jumna Canal. Irrigation by Branches ... | xxi |
| ,, | 12A. | Sirhind Canal. Irrigation by Branches ... ... | xxii |
| ,, | 12B. | Upper Bari Doab Canal. Irrigation by Branches ... | xxiii |
| ,, | 12C. | Lower Chenab Canal. Irrigation by Branches ... | xxiv |
| ,, | 12D. | Lower Jhelum Canal. Irrigation by Branches ... | xxv |
| ,, | 12E. | Upper Sutlej Inundation Canals. Irrigation by Canals ... | xxvi-xxvii |
| ,, | 12F. | Sidhnai Canal. Irrigation by Canals ... ... | xxviii-xxix |
| ,, | 12G. | Indus Inundation Canals. Irrigation by Canals ... | xxx-xxxi |
| ,, | 13 | Navigation receipts and charges ... ... ... | xxxii |
| ,, | 14. | Western Jumna Canal. Details of irrigation, Jind Distributaries ... ... ... ... | xxxiii |
| ,, | 15. | Western Jumna Canal Financial results of the working of the Jind Distributaries ... ... ... | xxxiv |
| ,, | 16. | Sirhind Canal. Financial results of the working of the Native States Branches ... ... ... | xxxv |
| ,, | 17. | Sirhind Canal. Areas irrigated, supply and duty on the Native States Branches ... ... ... | xxxvi |
| ,, | 18. | Sirhind Canal. Areas irrigated in the Patiala, Nabha and Jind States ... ... ... ... | xxxvii |
| | | MINOR IRRIGATION WORKS. | |
| ,, | 19. | Capital Account (Direct and Indirect) ... ... | xxxviii |
| ,, | 20. | Gross revenue realizations (Direct and Indirect) ... | xxxix |
| ,, | 21. | Cost of Working Expenses (Direct and Indirect) ... | xli-xliii |
| ,, | 22. | Net revenue realized ... ... ... ... | xliv |
| ,, | 23. | Zar-i-nagha realizations and expenditure ... ... | xlv |
| ,, | 24. | Balances of occupier's rates outstanding at end of each year | xlvi |
| ,, | 25. | Revenue Assessments (Direct and Indirect) ... ... | xlvii |
| ,, | 26. | Average occupier's rate per acre ... ... ... | xlviii |
| ,, | 27. | Shahpur (Imperial) Canals. Areas remitted ... ... | xlix |
| ,, | 27A. | Shahpur (Provincial) Canals. Areas remitted... ... | l |
| ,, | 27B. | Ravi (Provincial) Canals. Areas remitted ... ... | li |
| ,, | 28. | Areas irrigated, supply and duty ... ... ... | lii |
| ,, | 29. | Length of channels in operation ... ... ... | liii |
| ,, | 30. | Shahpur (Imperial) Canals. Irrigation by Branches ... | liv-lv |
| ,, | 30A. | Shahpur (Provincial) Canals. Irrigation by Branches ... | lvi-lvii |
| ,, | 30B. | Lower Sutlej Inundation Canals. Irrigation by Branches | lviii-lix |
| ,, | 30C. | Chenab Inundation Canals. Irrigation by Branches ... | lx-lxi |
| ,, | 30D. | Muzaffargarh Inundation Canals. Irrigation by Branches | lxii-lxiii |

Page.

APPENDIX 30E. Ghaggar Inundation Canals. Irrigation by Branches ... lxiv-lxvii

„ 30F. Ravi (Provincial) Canals ... ... ... lxviii-lxxix

MAP AND DIAGRAMS.

General Map ... ... Scale 16 miles = 1 inch. In pocket.

Diagram showing total areas irrigated by the Canals in the Punjab.

Ditto ditto Major Works in the Punjab.

Ditto ditto Minor ditto ditto.

UNIVERSITY OF ILLI

# PUNJAB CANALS.

| Year. | Area Irrigated in Acres. | | |
|---|---|---|---|
| | Punjab Canals, Major Works. | Punjab Canals, Minor Works. | Total. |
| 1887-1888 | 1,422,775 | 918,328 | 2,341,103 |
| 1888-1889 | 1,749,957 | 997,428 | 2,747,385 |
| 1889-1890 | 1,863,456 | 994,710 | 2,858,166 |
| 1890-1891 | 2,033,500 | 982,956 | 3,016,456 |
| 1891-1892 | 2,144,392 | 1,049,154 | 3,193,546 |
| 1892-1893 | 1,847,882 | 1,079,709 | 2,927,591 |
| 1893-1894 | 1,903,654 | 958,664 | 2,862,318 |
| 1894-1895 | 1,855,858 | 1,063,296 | 2,919,154 |
| 1895-1896 | 2,852,383 | 939,200 | 3,791,583 |
| 1896-1897 | 3,649,303 | 960,110 | 4,609,413 |
| 1897-1898 | 4,053,289 | 1,158,360 | 5,211,649 |
| 1898-1899 | 3,872,501 | 984,264 | 4,856,765 |
| 1899-1900 | 4,384,972 | 859,522 | 5,244,494 |
| 1900-1901 | 4,642,852 | 1,357,699 | 6,000,551 |
| 1901-1902 | 4,491,838 | 981,521 | 5,473,359 |
| 1902-1903 | 4,864,274 | 815,690 | 5,679,964 |
| 1903-1904 | 5,610,787 | 779,547 | 6,390,334 |
| 1904-1905 | 5,689,132 | 617,252 | 6,306,384 |
| 1905-1906 | 6,163,369 | 751,067 | 6,914,436 |
| 1906-1907 | 5,902,995 | 803,317 | 6,706,312 |
| 1907-1908 | 5,515,386 | 524,558 | 6,039,944 |

From the year 1894-1895 the total areas shown are net.

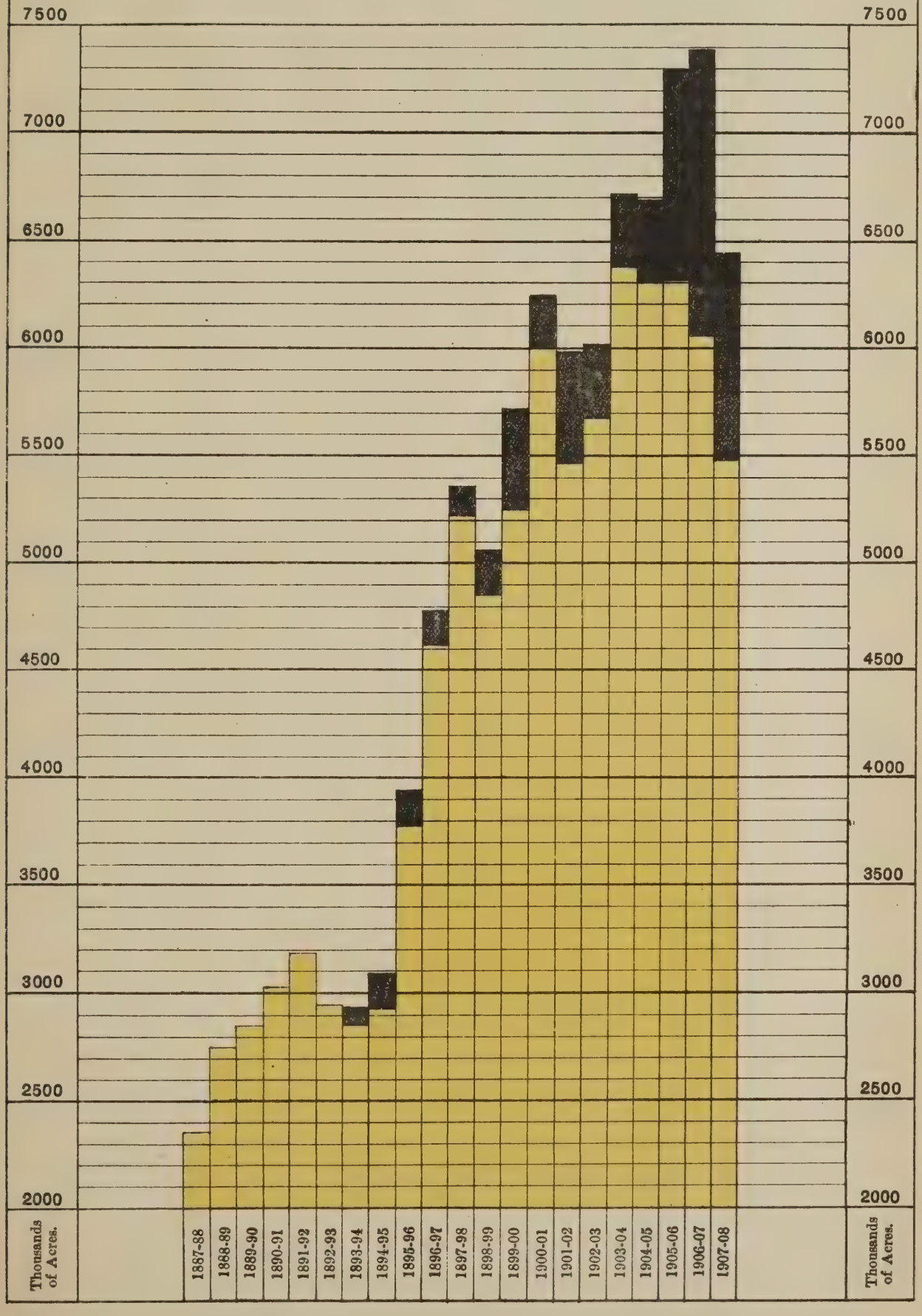
The areas include the Swat River Canal up to 1900-1901, after which date the canal was transferred to the North-West Frontier Province.

# DIAGRAM

## SHOWING TOTAL AREA IRRIGATED

## BY

# PUNJAB CANALS.




The black portions represent area remitted; the drab, net areas, from the year 1893-94.

Photo.-Mechl. and Litho. Dept., Thomason College, Roorkee. Zinco., November, 1908.— No. 4688. 410

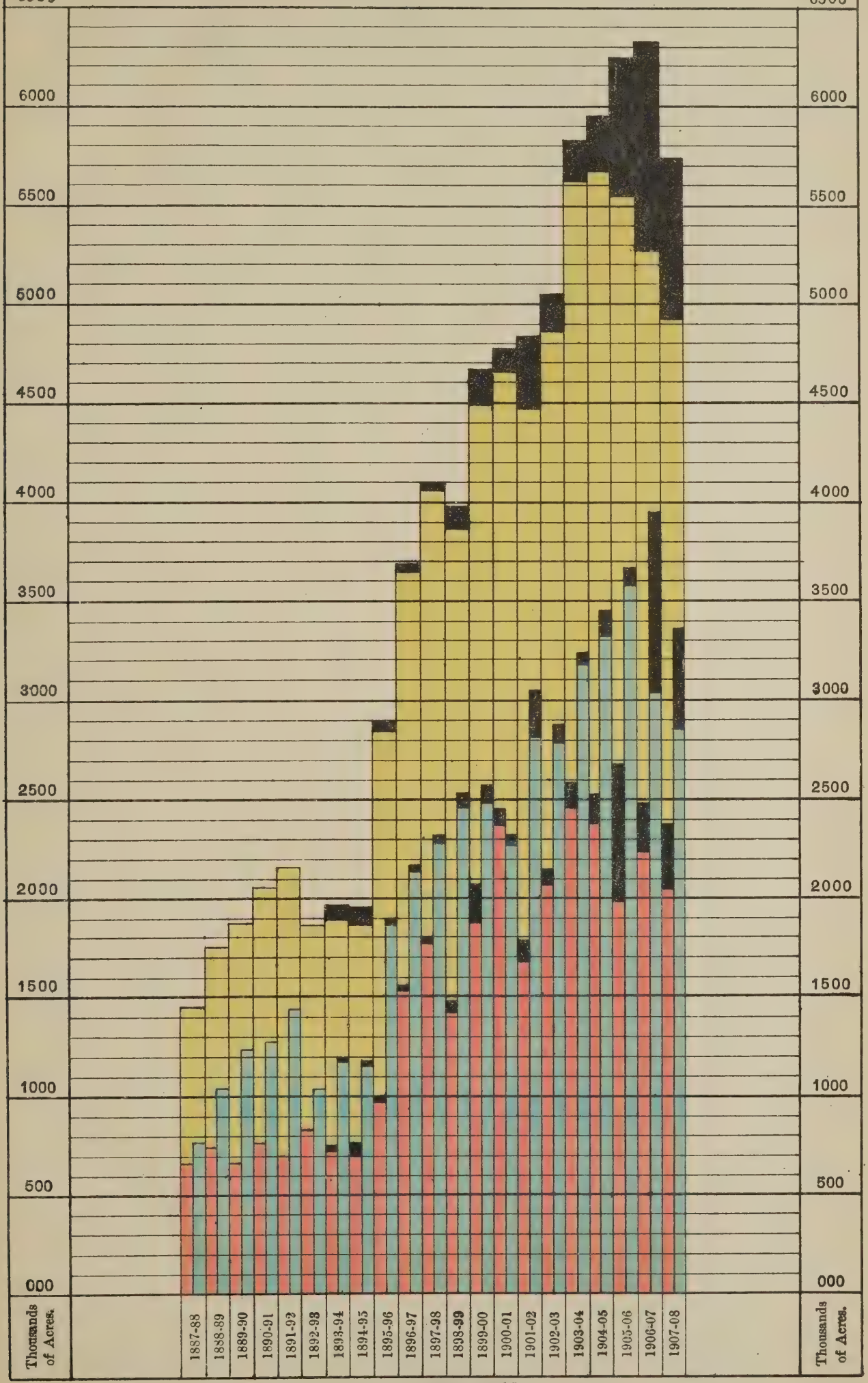
# PUNJAB CANALS, MAJOR WORKS.

| Year. | Area irrigated in acres. | | | Remarks. |
|---|---|---|---|---|
| | Kharif | Rabi. | Total. | |
| 1887-1888 ... | 645,846 | 776,929 | 1,422,775 | Chenab Canal opened. |
| 1888-1889 ... | 715,632 | 1,034,325 | 1,749,957 | |
| 1889-1890 ... | 661,677 | 1,201,779 | 1,863,456 | |
| 1890-1891 ... | 757,535 | 1,275,965 | 2,033,500 | |
| 1891-1892 ... | 697,454 | 1,446,938 | 2,144,392 | Sirsa Branch of Western Jumna Canal opened. |
| 1892-1893 ... | 823,235 | 1,024,647 | 1,847,882 | Decrease due entirely to the favourable winter rains of 1892-1893, which greatly contracted the irrigated rabi area. |
| 1893-1894 ... | 711,001 | 1,192,653 | 1,903,654 | Decrease as compared with 1891-1892 due to general rainfall in rabi 1893-1894, and would have been greater but for new irrigation on Chenab Canal. |
| 1894-1895 ... | 703,930 | 1,151,928 | 1,855,858 | Decrease due to very favourable rainfall during rabi, particularly in Sirhind and Western Jumna Canal tracts. |
| 1895-1896 ... | 985,827 | 1,866,556 | 2,852,383 | Increase chiefly due to partial failure of rains of 1895 and subsequent drought. |
| 1896-1897 ... | 1,534,969 | 2,114,334 | 3,649,303 | Increase due to drought. |
| 1897-1898 ... | 1,777,565 | 2,275,724 | 4,053,289 | Increase due to favourable year for irrigation and extensions. |
| 1898-1899 ... | 1,413,822 | 2,458,679 | 3,872,501 | Decrease in kharif due to favourable state of rivers and scanty rainfall. |
| 1899-1900 ... | 1,888,398 | 2,496,574 | 4,384,972 | |
| 1900-1901 ... | 2,354,174 | 2,288,678 | 4,642,852 | |
| 1901-1902 ... | 1,686,043 | 2,805,795 | 4,491,838 | |
| 1902-1903 ... | 2,071,363 | 2,792,911 | 4,864,274 | The Upper Sutlej Inundation Canals were transferred from head "Minor Works," to "Major Works" from 1st April 1902. |
| 1903-1904 ... | 2,450,739 | 3,160,048 | 5,610,787 | The Indus Inundation Canals were transferred from head "Minor Works" to "Major Works" from 1st April 1903. |
| 1904-1905 ... | 2,381,786 | 3,307,345 | 5,689,132 | |
| 1905-1906 ... | 2,294,460 | 3,868,911 | 6,163,371 | Decrease in kharif due to cotton failure. |
| 1906-1907 ... | 2,435,219 | 3,467,776 | 5,902,995 | |
| 1907-1908 ... | 2,226,291 | 3,289,095 | 5,515,386 | Decrease due to abnormally low supplies in the rivers. |

The areas include the Swat River Canal up to 1900-1901, after which date the canal was transferred to the North-West Frontier Province.

# DIAGRAM

## SHOWING TOTAL AREA IRRIGATED BY PUNJAB CANALS—MAJOR WORKS.




REFERENCES.

The areas irrigated annually are shown by the black line columns, the first sub-division of each annual column being the "Kharif" area, coloured red, and the second the "Rabi" area, coloured blue.

The black portions represent area remitted; the drab, net areas from the year 1893-94.

Photo.-Mechl. and Litho. Dept., Thomason College, Roorkee.

Photo.-Zinco., November. 1908—No. 4563—410

# PUNJAB CANALS, MAJOR WORKS.

| YEAR. | Capital outlay, *Direct* and *Indirect*, to end of year. | Interest charges to end of year. | Net revenue to end of year. | Accumulated profits to end of year. (Col 4—Col. 3). | *For the year.* | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Gross revenue. | Working expenses. | Net revenue. | Percentage on Capital. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| 1887-1888, | 5,76,25,823 | 3,18:46,764 | 5,09,35,631 | 1,90,88,867 | 40,05,923 | 17,01,248 | 23,04,675 | 3·99 |
| 1888-1889, | 5,89,48,409 | 3,40,74,458 | 5,33,27,638 | 1,92,53,180 | 43,64 994 | 19,72,987 | 23,92,007 | 4·06 |
| 1889-1890, | 6,00,98,478 | 3,63,49,808 | 5,61,80,320 | 1,98,30,512 | 49,66,797 | 21,14,115 | 28,52,682 | 4·74 |
| 1890-1891, | 6,24,71,861 | 3,86,93,767 | 5,98,37,074 | 2,11,43,207 | 58,30,440 | 21,73,686 | 36,56,754 | 5·85 |
| 1891-1892, | 6,70,91,026 | 4,11,74,523 | 6,36,26,126 | 2,24,51,603 | 60,40,990 | 22,51,938 | 37,89,052 | 5·65 |
| 1892-1893, | 6,97 92,824 | 4,37,98,997 | 6,79,83,644 | 2,41,84,647 | 68,09,149 | 24,51,631 | 43,57,518 | 6·24 |
| 1893-1894, | 7,34,89,876 | 4,65,48,772 | 7,08,89,491 | 2,43,40,719 | 53,50,907 | 24,45 060 | 29,05,847 | 3·95 |
| 1894-1895, | 7,64,95,573 | 4,94,29,432 | 7,42,04,493 | 2,47,75,061 | 59,65,551 | 26,50,549 | 33,15,002 | 4·33 |
| 1895-1896, | 8,02,57,067 | 5,24,41,565 | 7,87,76,591 | 2,63,35,026 | 70,98,254 | 28,40,474 | 42,57,780 | 5·31 |
| 1896-1897, | 8,41,00,265 | 5,56,01,216 | 8,66 34,033 | 3,10,32,817 | 1,09,44,448 | 30,87,005 | 78,57,443 | 9·34 |
| 1897-1898, | 8,70,19,865 | 5,88,92,163 | 9,56,36,226 | 3,67,44,063 | 1,21,88,419 | 31,86,227 | 90,02,192 | 10·35 |
| 1898-1899, | 8,92,16,631 | 6,22,82,641 | 10,44,91,814 | 4,22,09,173 | 1,24,07,093 | 35.51,505 | 88,55,588 | 9·93 |
| 1899-1900, | 9,09,47,216 | 6,57,49,487 | 11,37,77,761 | 4,80,28,274 | 1,34,14,661 | 41,28,714 | 92,85,947 | 10·21 |
| 1900-1901, | 9,20,75,977 | 6,92,70,359 | 12,40,92,246 | 5,48,21,887 | 1,46,16,136 | 43,01,651 | 1,03,14,485 | 11·20 |
| 1901-1902, * | 8,94,41,638 | 6,99,30.552 | 13,15,08,916 | 6,15,78,364 | 1,46,35,198 | 43,26,919 | 1,03,08,279 | 11·52 |
| 1902-1903, | 10,34,61,088 | 7,53 36,849 | 14,45,26,777 | 6,91,89,928 | 1,66,14,594 | 48,22,673 | 1,17,91,921 | 11·39 |
| 1903-1904, | 10 69,97,947 | 8,03,36,374 | 15,82,78,899 | 7,79,42 525 | 1,85,73,69 | 57,18,671 | 1,28,55,020 | 12·02 |
| 1904-1905, | 10,87,88,346 | 8,44,56,907 | 17,16,51,245 | 8,71.94,338 | 1,96,10,593 | 62,38,247 | 1,33,72,346 | 12·29 |
| 1905-1906, | 11,01,51,719 | 8,86,36,692 | 18,33,97 547 | 9 47,60,855 | 1,83,36,568 | 65,90,266 | 1,17,46,302 | 10·66 |
| 1906-1907, | 11,11,16,550 | 9,23,04,047 | 19,85,95,247 | 10,62,91,200 | 2,21,75,797 | 69,78,097 | 1,51,97,700 | 13·68 |
| 1907-1908, | 11,23,83,171 | 9,59,81,870 | 21,16,95,539 | 11,57,13,669 | 2,02,79,699 | 71,79,407 | 1,31,00.292 | 11·66 |

*Excludes the figures relating to the Swat River Canal, which now belongs to the North-West Frontier Province. The figures up to 1900-1901 include the figures of that Canal.

The Gross Revenue in column 6 is that actually collected during the year, and differs from the Revenue as assessed on the area irrigated in the year.

# PUNJAB CANALS, MINOR WORKS.

| Year. | Area irrigated in acres. | | | Remarks. |
|---|---|---|---|---|
| | Kharif. | Rabi. | Total. | |
| 1887-1888... ... | 505,095 | 413,233 | 918,328 | |
| 1888-1889... ... | 571,558 | 425,870 | 997,428 | |
| 1889-1890 .. ... | 542,112 | 452,598 | 994,710 | |
| 1890-1891... ... | 520,408 | 462,548 | 982,956 | |
| 1891-1892... ... | 752,490 | 596,664 | 1,049,154 | |
| 1892-1893... ... | 491,151 | 588,558 | 1,079,709 | Rivers rose late, but subsequent supplies were good, and rainfall was favourable, the result being the largest area on record up to date. |
| 1893-1894... ... | 409,917 | 548,747 | 958,664 | Decrease due to the destruction of kharif crops by high floods and to less favourable working of the canals. |
| 1894-1895... ... | 500,248 | 563,048 | 1,063,296 | |
| 1895-1896... ... | 477,957 | 461,243 | 939,200 | |
| 1896-1897... ... | 533,745 | 426,365 | 960,110 | |
| 1897-1898... ... | 565,582 | 592,778 | 1,158,360 | |
| 1898-1899... ... | 453,402 | 530,862 | 984,264 | |
| 1899-1900... ... | 520,893 | 338,629 | 859,522 | |
| 1900-1901... ... | 669,563 | 688,136 | 1,357,699 | |
| 1901-1902... ... | 508,416 | 473,105 | 981,521 | |
| 1902-1903... ... | 424,819 | 390,871 | 815,690 | Decrease due chiefly to the transfer of the Upper Sutlej Inundation Canals from head "Minor Works" to "Major Works" from 1st April 1902. |
| 1903-1904... ... | 316,418 | 463,129 | 779,547 | Decrease due chiefly to the transfer of the Indus Inundation Canals from head "Minor Works" to "Major Works" from 1st April 1903. |
| 1904-1905... ... | 296,636 | 320,616 | 617,252 | |
| 1905-1906... ... | 298,279 | 452,788 | 751,067 | |
| 1906-1907... ... | 295,898 | 507,419 | 803,317 | |
| 1907-1908... ... | 258,074 | 266,484 | 524,558 | |

The above includes the areas irrigated by the Shahpur Provincial Canals from 1890-1891 inclusive.

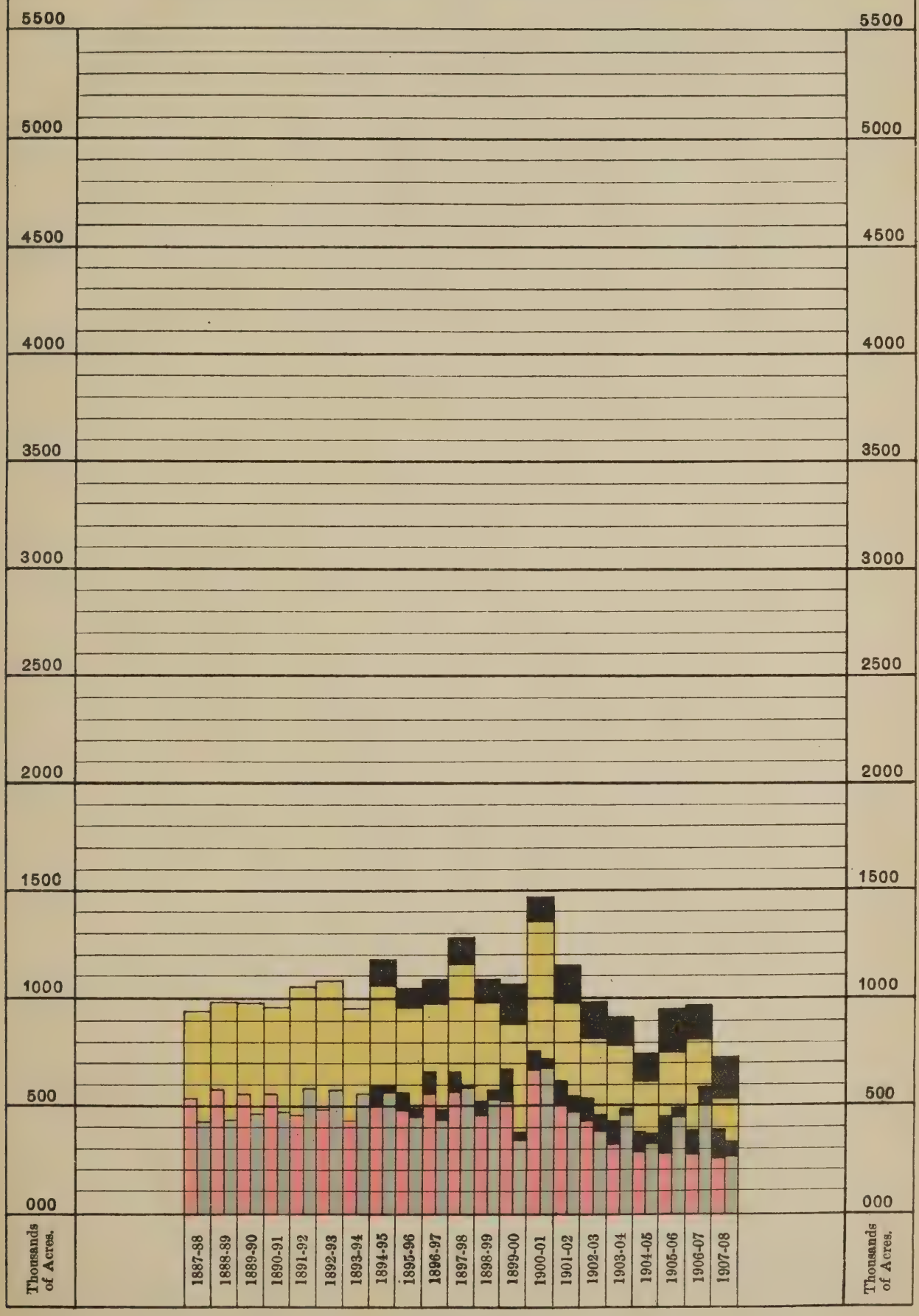
The above includes the areas irrigated on Ghaggar Canals, British and Bikaner State. From the year 1894-1895 the areas shown are net.

# DIAGRAM

## SHOWING TOTAL AREA IRRIGATED

## BY

# PUNJAB CANALS MINOR WORKS.




REFERENCES.

The first sub-division of each annual column denotes the "Kharif" area, coloured red, and the second the "Rabi" area, coloured blue.

The black portions represent area remitted; the drab, net areas, from the year 1894-95.

Photo.-Mechl. and Litho. Dept., Thomason College, Roorkee. Zinco., November, 1908—No. 4688-1. 410

No. 242 R. I.

GOVERNMENT OF THE PUNJAB.

# PUBLIC WORKS DEPARTMENT.

## IRRIGATION BRANCH.

## Resolution by His Honour the Lieutenant-Governor of the Punjab and its Dependencies.

*Dated Lahore, the 30th March* 1909.

READ—

Revenue Report by the Chief Engineer, Irrigation Works, Punjab, for the triennial period 1905-06 to 1907-08.

### CAPITAL OUTLAY.

RESOLUTION.—The capital invested on those Productive or Major Irrigation Works which were in operation at the end of the triennial period ending March 1908 was Rs. 12,76,40,171, of which Rs. 1,52,57,000 represents contributions from Native States.

2. The Imperial expenditure in each of the three years of the period was Rs. 13,63,373 in 1905-06, Rs. 9,64,831 in 1906-07 and Rs. 12,66,621 in 1907-08. Of this expenditure nearly one-half was incurred on the construction of the Lower Jhelum Canal. On the other open canals the expenditure was comparatively small except on the Upper Bari Doab Canal and the Indus Inundation Canals: on the former 5½ lakhs were spent in 1907-08, chiefly on the equipment of the Central Workshops at Amritsar, and on the extension of the Niaz Beg Distributary on which work was stopped pending further consideration. The large expenditure on the Indus Canals was incurred mainly on remodelling the Manka Canal, and on the Talai Embankment Project.

3. There are only two Minor Works for which capital accounts are kept, *viz.*, the Shahpur (Imperial) Canals and Ghaggar Canals. The expenditure on these to end of March 1908 amounted to Rs. 8,43,554, of which Rs. 2,84,319 represents the contribution from Bikaner State towards the cost of the Ghaggar Canals. During the triennium practically no capital expenditure was incurred on these works.

### NATURE OF SEASONS.

4. During each year of the triennial period the conditions generally were extremely unfavourable to the canals, and led to large remissions of water rates on account of plague, boll-worm and blight. In kharif 1905 the supplies in the rivers were low; the cotton crop was destroyed by boll-worm, leading to remissions of rates on 668,000 acres or two-thirds of the total cotton area; and in the two succeeding years dread of the disease deterred the cultivator from placing the usual area under this crop. In 1906 the area under all kharif crops was reduced by the prevalence of plague, which, together with renewed attacks of boll-worm, led to large remissions on the already reduced area. In the succeeding rabi untimely rainfall caused considerable damage to wheat and other crops, and special remissions were granted on 761,000 acres, or on one-fourth of the total rabi area.

In 1907-08 plague still prevailed; the autumn rains were exceptionally late and fitful, and ceased by the middle of August; there was practically no winter rainfall; and during both seasons the supplies in the rivers were unprecedentedly low. In reviewing the results of the working of the canals during this period it is necessary, therefore, to make due allowance for what is fortunately a very unusual series of calamities.

## AREAS IRRIGATED, ETC.

5. The average areas annually irrigated by works of all kinds, the areas matured, and the difference between these two, that is, the areas on which remissions were granted, compare as follows with the corresponding figures for the two previous triennia :—

| Triennial period ending | Total areas including Native States. | | | Native States areas matured. |
|---|---|---|---|---|
| | Irrigated. | Remitted. (excluding Native States). | Matured. | |
| | Acres. | Acres. | Acres. | Acres. |
| 1901-02 ... ... | 6,090,710 | 625,955 | 5,464,755 | 385,930 |
| 1904-05 ... ... | 6,603,256 | 477,696 | 6,125,560 | 387,426 |
| 1907-08 ... ... | 7,753,082 | 1,199,517 | 6,553,565 | 501,224 |

The increase of 1,150,000 acres in the area irrigated, and of 428,000 acres on the area matured, are in round figures made up as follows :—

| *Name of Canal.* | *Area irrigated.* | *Area matured.* |
|---|---|---|
| Western Jumna Canal ... | 163,000 | 147,000 |
| Sirhind { British ... ... | 16,000 | — 14,000 |
| Sirhind { Native States ... | 100,000 | 100,000 |
| Upper Bari Doab Canal ... | 195,000 | 97,000 |
| Lower Chenab Canal ... | 127,000 | — 226,000 |
| Lower Jhelum Canal ... | 374,000 | 234,000 |
| Inundation Canals ... ... | 175,000 | 90,000 |
| Total ... | 1,150,000 | 428,000 |

Of the increase in the area irrigated, 500,000 acres are on the newer canals—the Lower Chenab and Lower Jhelum—and 650,000 acres on the older canals. The increase on the Western Jumna Canal is due partly to the extension of the cotton area following on a rise in prices, and partly to improvements in the system of distribution. On the Sirhind Canal the increase is almost entirely in Native States, where it is attributed to improvements in distribution and administration. It has, however, not been clearly explained why the British Branches of the canal have not participated in the increase in area which has occurred in the adjoining Native States and in British territory on adjoining canals. It may be that the enhancement of the rates for kharif 1905 curtailed the demand for water, but this is not the opinion of the local canal officers, and it is understood that enhancement was made at the same time and to the same extent in the Native States. On the newer canals the increase in the area matured by the Lower Jhelum is counter-balanced by a decrease on the Lower Chenab Canal, where annual remissions where given on 450,000 acres, or 21 per cent. of the area irrigated, against a normal of about 3 per cent. On the Upper Bari Doab Canal the

increases are mainly due to the development of irrigation on new distributaries in the 3rd Division. On the Inundation Canals there is an increase in the matured area on the Upper Sutlej of 70,000 acres and on the Sidhnai of 20,000 acres.

6. The rates in British villages were remitted on approximately 1,200,000 acres, or more than twice the normal area. On 75,000 acres only were the remissions due to failure of the canal supply. The areas in Native States on which remissions were granted have not been reported except for the year 1907-08, when remissions were given on 2 24 per cent. of the irrigated area.

7. The areas irrigated from inundation canals only compare as follows :—

| Triennial period ending | Area irrigated. | Area remitted. | Area matured. |
|---|---|---|---|
| | Acres. | Acres. | Acres. |
| 1901-02 ... ... ... ... | 1,480,086 | 264,770 | 1,215,316 |
| 1904-05 ... ... ... ... | 1,470,187 | 236,784 | 1,233,403 |
| 1907-08 ... ... ... ... | 1,644,802 | 321,455 | 1,323,347 |

It is satisfactory that in spite of less rainfall and smaller floods, and of the increasing draw-off from the rivers to feed perennial canals, there has been no falling off in the area on inundation canals. On the contrary, there is a very substantial increase in the area irrigated, and that there is not a corresponding increase in the area matured is due chiefly to boll-worm in 1905 and 1906, and to the unusually early cessation of the rains and consequent failure of supply in 1907.

## Financial results.

8. The average annual gross receipts from works of all kinds during the period under review compare as follows with the figures for the two previous triennia :—

| Triennial period ending. | Gross receipts. | | | | |
|---|---|---|---|---|---|
| | Imperial and Provincial. | | | Native States. | |
| | Major Works. | Minor Works. | Total. | Major Works. | Minor Works. |
| | Rs. | Rs. | Rs. | Rs. | Rs. |
| 1901-02 ... ... | 1,46,69,258 | 12,57,602 | 1,59,26,860 | 14,02,625 | ... |
| 1904-05 ... ... | 1,83,90,354 | 15,26,648 | 1,99,17,002 | 14,72,460 | ... |
| 1907-08 ... ... | 2,02,64,022 | 15,89,517 | 2,18,53,539 | 20,40,069 | 74 |

Notwithstanding the fact that the average remissions granted yearly during the last triennial period were about 19 lakhs in excess of the normal amount, the average gross receipts under "Imperial and Provincial" still exceed those of the previous period by 19 lakhs, or 9·7 per cent. The excess is due mainly to the increase in areas matured noted in paragraph 5 ; but about 2½ lakhs of the excess is the result of the enhancement of rates on the Sirhind Canal with effect from kharif 1905. Had the percentage of remissions remained at its normal figure

the excess would have been no less than 38 lakhs, or 19 per cent. The average annual working expenses for the three periods are :—

| Triennial period ending. | Imperial and Provincial. | | | Native States. | |
|---|---|---|---|---|---|
| | Major Works. | Minor Works. | Total. | Major Works. | Minor Works. |
| | Rs. | Rs. | Rs. | Rs. | Rs. |
| 1901-02 ... ... | 47,13,005 | 9,27,627 | 56,40,632 | 6,10,681 | ... |
| 1904-05 ... ... | 56,90,829 | 10,40,873 | 67,31,702 | 5,97,214 | 9,915 |
| 1907-08 ... ... | 69,15,923 | 10,11,033 | 79,26,956 | 7,71,790 | 3,225 |

The average annual net revenues, therefore, compare as follows :—

| Triennial period ending. | Imperial and Provincial. | | | Total. | Native States. | | |
|---|---|---|---|---|---|---|---|
| | *Major Works.* | | Minor Works. | | *Major Works.* | | Minor Works. |
| | Amount. | Percentage on Capital. | | | Amount. | Percentage on Capital. | |
| | Rs. | | Rs. | Rs. | Rs. | | Rs. |
| 1901-02 ... | 09,56,253 | 10·34 | 3,39,775 | 1,02,86,028 | 7,91,944 | 5·20 | ... |
| 1904-05 ... | 1,26,99,525 | 11·91 | 4,85,775 | 1,31,85,300 | 8,75,246 | 5·74 | —9,915 |
| 1907-08 ... | 1,33,48,099 | 11·88 | 5,78,484 | 1,39,26,583 | 12,68,279 | 8·31 | —3,151 |

Here also had it not been for the unusually large remissions, that is, had the area on which remissions were granted remained at its normal proportion, the average net revenue under " Imperial and Provincial " would have amounted to at least Rs. 1,58,00,000, or 19 lakhs more than is shown above, and would have represented a return of 14 per cent. on the invested capital. Under Native States the large and satisfactory increase in revenue is due partly to the increase in rates on the Sirhind Canal, but largely to substantial improvements made by the States of Patiala, Nabha, and Jind in the distribution of water, and in the general administration of the State Branches.

9. Having due regard to the extraordinary low supplies in the rivers in 1907-08, and to the large remissions granted in the previous two years, the results for Minor Works are extremely satisfactory. The increase in net revenue is due mainly to improvements in the working of the Lower Sutlej and Chenab Inundation Canals.

10. The average annual percentages of the total net revenue on capital outlay on the various larger canals were as follows:—Western Jumna Canal, 10·94; Sirhind Canal, 8·02; Upper Bari Doab, 11·34; Lower Chenab Canal, 20·62, Lower Jhelum Canal, 4·01; Upper Sutlej Inundation Canals, 14·71; Sidhnai Canals, 20·88, and Indus Inundation Canals, 3 89.

11. The Lower Chenab Canal has now, at the end of 21 years, paid off both interest and capital charges with a surplus of over a crore of rupees. The Lower Jhelum Canal which opened in 1901 has paid off nearly half of its accumulated interest charges.

## General remarks.

12. The estimated average value of the crops raised on all canals for the period under review works out to Rs. 16,30,83,761 against Rs. 15,99,84,057 for the previous triennium.

13. The length of channels in operation at the end of March 1908 amounted to 16,979 miles, *viz.*, 4,508 miles of Canals and Branches and 12,471 of Distributaries.

14. The construction of the Lower Bari Doab Canal, which forms the third link of the Triple Canal Project, sanctioned in January 1905, was started during the triennium Special Land Acquisition Officers were deputed for the purpose of acquiring land for the Upper Chenab and Upper Jhelum Canals on which work progressed steadily. The total expenditure on the three canals to the end of March 1908 was Rs. 1,77,12,614.

15. Some 6,250 square miles of the country in British, Bahawalpur and Bikaner Territory were surveyed and levelled over in connection with the Project for the utilisation of the surplus waters of the Sutlej river.

16. The *Zar-i-Nagha* Funds of the Lower Sutlej and Muzaffargarh Inundation Canals were closed during the triennium, and the *chher* labour system was finally abolished.

17. The post of Chief Engineer has been held during the period under review by the Hon'ble Mr. J. Benton, C. I. E., and by Messrs. R. G. Kennedy, J. Mullaly and E. H. Pargiter.

18. The period has been one of great activity both as regards the construction of new canals and the improvement of those already in operation ; and Sir Louis Dane is glad to have this opportunity of expressing his hearty appreciation of the good work done, usually under very trying conditions, by a Department to which the Punjab is so much indebted for its material progress and prosperity.

By order of His Honour the Lieutenant-Governor,

W. B. GORDON,

*Secretary to Government, Punjab.*

Punjab Government Press, Lahore—14-4-09—1396—405—P. B. S.

GOVERNMENT OF THE PUNJAB.

PUBLIC WORKS DEPARTMENT.

IRRIGATION BRANCH.

# CHIEF ENGINEER'S REVENUE REPORT
FOR THE
# TRIENNIAL PERIOD 1905-06 TO 1907-08.

# MAJOR IRRIGATION WORKS.

## WESTERN JUMNA CANAL.

*Capital Account* (*Appendix* 1).—A Combined Sub-Divisional Officer's quarters and rest-house at Karnal, Inspection houses at R. D. 155,000 feet, Hansi Branch, and at Nandheri, and 11 Subordinates' Rest-houses were constructed against Capital.

2. *Gross Revenue, realizations* (*Appendix* 2).—In 1905-06 large remissions were given on cotton damaged by boll-worm; the frost of 1905 seriously damaged sugarcane seed, but only slightly affected the rabi crop. The monsoon failed partially in each year and caused intense demand. On the whole, there has been an increase in the irrigated area, the result partly of remodelling distributaries, partly of increased prices, especially for cotton, and partly of the scanty rainfall.

3. *Working Expenses* (*Appendix* 3).—Under Extensions and Improvements iron drop gates were provided at Indri. The Tajawala Weir was remodelled by building a raised crest 4 feet high and 600 feet long at the east end in place of wooden crates 3 feet high; the wooden shutters on the weir, which were 600 feet in length, were prolonged to a length of 900 feet; thus leaving only 300 feet of the old remodelled weir crest at its designed level. The Main Branch was remodelled from Indri to Uchana Fall, a distance of about 12 miles, and much work was done in remodelling distributaries.

4. The expenditure on Maintenance and Repairs included outlay on training works both above and below Tajawala Weir; grouting the weir glacis; repairing the up and down stream floors of the Patrala Dam; and pointing the Dadupur rapid with cement. The banks of branch canals were strengthened, particularly the first 47 miles of the Sirsa Branch. Silting reaches were formed on the Main Branch at Indri, and also in the first 9 miles of the Hansi Branch, and silting operations were actually commenced on the latter. The work on the Indri silting reaches was much delayed by low canal supplies which made it impossible to consolidate the banks. Many distributaries were strengthened. Though expenditure has increased, the money has been usefully spent.

5. Under Patiala State Contribution the expenditure consists principally of a proportionate contribution on the expense of maintaining the Main Line and the Sirsa Branch. Seigniorage for the use of water is charged against Extensions and Improvements (see also paragraph 7 below), and amounted on an average to Rs. 14,600 per annum. In the beginning of the next triennial period the distributaries of the Patiala State on the Sirsa Branch, which have hitherto been maintained by the British Government, at the expense of the State, will be transferred

to State management as originally intended. During the period under review some remodelling was done on these distributaries and has greatly improved the channels.

6. *Unrealized balances* (*Appendix* 6).—There was a large unrealized balance due from Jind State at close of the year 1907-08 which was not paid into the Rohtak Treasury till May 1908. With the exception of this sum, and of about Rs. 2,000 on which an appeal had been presented to the Commissioner, and on which collections were delayed pending decision, the balance unrealized at the end of the year was not large.

7. *Assessment and rates per acre* (*Appendices* 7 *and* 8).—There was a decrease in area in rabi 1907-08 as compared with the other seasons of the triennial period, caused by the extraordinary low supply in the river, which not only interfered with sowings, but made it very difficult to mature the small area sown. On the whole the average area and amount assessed are far larger than in any previous triennial period. The destruction of cane-seed by frost in the spring of 1905 caused a decrease of Re. 0·10 per acre in the average occupiers' rates in kharif. The increase in miscellaneous receipts noticed last triennial period continued; navigation receipts remain fairly steady; and receipts from plantations for sales of fuel and timber continue to give a good income. Seigniorage for the use of water debited to the Patiala State (see paragraph 5 above) is credited under Miscellaneous Revenue and yielded an average of Rs. 14,600 per annum.

8. *Remissions* (*Appendices* 9 *and* 9-*A*).—Damage to cotton by boll-worm in the Hissar District in kharif 1905-06 necessitated remissions on 10,000 acres. Besides this, 13,000 acres of kharif were remitted in the same season, and 10,000 acres in kharif 1907-08, on account of short supply.

9. *Area irrigated, supply and duty* (*Appendix* 10).—Good demand for water during the period has led to an increase in the average duty. The exceptionally high duty for rabi 1905-06 was, no doubt, partly caused by the small area of sugarcane in the previous kharif. With regard to the duty of 146 acres per cusec attained in rabi 1907-08, it should be noted that the water was barely sufficient fully to mature the crop.

10. *Length of channels* (*Appendix* 11).—The decrease of 11 miles of branch canal is due to the conversion of the Okhla Navigation Channel into an escape; 53 miles of distributary channels were abandoned as a result of remodelling; and 6 miles of new distributary channels added. The alterations have been principally on minor distributaries.

11. *Irrigation by branches* (*Appendix* 12).—The increase in the total area of irrigation is shared by all the branches, with the exception of the Butana. The average irrigation on each branch is slightly in excess of the area it is intended to irrigate, a result which has not been attained in any previous period.

12. *Navigation* (*Appendix* 13).—The Navigation receipts consist of tolls for rafting and remained steadily high.

13. *Irrigation in Jind State.*—In 1906-07, under the orders of Government, the area to be irrigated in the State was increased from 50,000 to 60,000 acres. The extra area was proposed to be placed on Distributary No. 3, which was remodelled and extended; the work will be completed and opened for irrigation early in 1908-09. Meanwhile, pending completion of the works on Distributary No. 3, an extra supply was given to Distributary No. 1 at the request of the Darbar. The area actually irrigated averages 56,761 acres as compared with 47,868 acres irrigated in the previous triennial period. In addition to this, an average of 2,300 acres was irrigated in Jind State from the Bhiwani Distributary, Butana Branch Canal. The distributaries are managed by the State.

14. *General remarks.*—The severe frost in the spring of 1905 did not seriously affect the rabi of 1904-05, the collections on which are credited in 1905-06; but the frost caused great loss of cane-seed, with the result that only

a small area of sugarcane (19,239 acres) could be sown in 1905-06. In the same year the boll-worm did considerable damage to the cotton crop, for which liberal remissions were given, but the fear that similar damage would occur in 1906 07 caused a reduction in the area for that year. The rainfall of 1905-06 was very unfavourable. Rohtak, where famine conditions prevailed in the cold weather, received only one-third of the average, while in the Delhi District the rainfall was only half the average. In 1906-07 the rainfall was not favourably distributed, as it held off when most wanted. In 1907-08 the monsoon failed almost entirely, and there was hardly any rain during the rabi of that year. The whole period, therefore, has been one of great demand for water, resulting in large areas of crops grown with the aid of canal water and increased revenue. The cold weather of 1907-08 was remarkable for the very low average supply in the river (2,164 cusecs was the share of the Western Jumna Canal, which is entitled to two-thirds of the whole supply, the remainder being given to the Eastern Jumna Canal). Good rain in September 1906 and in the spring of 1907 made it possible to close the Canal for 33 days in that year as there was a complete cessation of demand, but in 1905-06 and 1907-08 there were no long closures.

15. Owing to deficient rainfall the drainage works were not severely tested.

16. The return on the Capital expenditure was 9·13 per cent. in the last triennium; it is 10·94 per cent. in the period under review. In the Patiala State the former triennial average return was 10·24 per cent. and has increased to 10·78 in the three years ending 1907-08.

## SIRHIND CANAL.

17. *Capital Account.*—The expenditure under "Imperial" and "Contributions from Patiala, Nabha and Jind States" is shown under Appendix 1. During the three years under review the most important works executed under Imperial were the conversion of a foot bridge in the 41st mile of the Abohar Branch into a cart bridge; rebuilding Wazidki Inspection House on Karur Distributary; new Inspection houses at Varyam Khera, Danewala, Kasim Bhatti and Rajjanwali on the Abohar Branch; new Revenue Office at Ferozepore; new Head Reach for the lower half of the Rupana Distributary; and a cart bridge at R. D. 15,400 feet, Bhatinda Branch. Under Contributions a cart bridge and a Subordinate's rest-house were constructed at Bhorey.

18. *Gross Revenue, realizations* (*Appendix* 2).—The increase under Imperial is due to enhanced water-rates introduced in December 1904, a rise in mill rents, and extensive sales of fuel.

19. The amounts shown against Native States in Appendix 2 are made up of the States' share of miscellaneous revenue on the Main Line, and the whole of the miscellaneous revenue on the States' Branches (including mill rents) as shown in the Administrative Accounts, and the water-rates and other income, the figures for which are supplied by the States, but are not included in the Administrative Accounts.

20. *Working Expenses* (*Appendix* 3).—The working expenses, Imperial, show an increase, and average Re. 1·33 per acre irrigated as compared with Re. 1·20 in the previous triennial period. The increase is due to heavy expenditure incurred on remodelling the distributary systems. Other works of importance carried out were the construction of two needle dams in the Abohar Branch and the establishment of boundary roads along the Raekot and Jagraon Distributaries in the Ludhiana Division. The working expenses under Contributions are made up of the share to be borne by the States as shown in the Administrative Accounts, and the figures of expenditure incurred by the officials of the Native States.

21. *Unrealised balances* (*Appendix* 6).—The balances outstanding at the end of each year are very small and show great improvement over the previous triennial period.

22. *Assessments and rates per acre* (*Appendices 7 and 8*).—The average occupier's rate per acre is Rs. 3·61 in kharif and Rs. 3·88 in rabi as against Rs. 3·24 and Rs. 3·21 respectively, in the previous triennial period. The low rate of Rs. 3·32 per acre in rabi 1907-08 is due to liberal remissions granted on account of the failure of the spring rainfall and the scanty supply of water in the Sutlej River throughout the month of March 1908.

23. *Remissions* (*Appendix 9 B*).—The remissions in kharif 1905 were principally on account of damage caused by boll-worm. The abnormally high percentage of 24·30 remitted during rabi 1907-08 was due to the failure of the rains in February and March and to the river supply during March being abnormally low. Full remissions were given for all crops that had not received "Kor" water up to the 31st March 1908.

24. *Length of channels* (*Appendix 11*).—The decrease of 748 miles of channels on the British Branches is due to numerous minors having been abandoned in connection with remodelling schemes, a feature of which is the substitution of water-courses direct from the Major Distributary for minor channels of low capacity.

25. During 1905-06, 8¼ miles of Minor Distributary channels were made by the Patiala State on the Kotla Branch; while 17¼ miles were abandoned on the Ghaggar and Choa Branches. During 1906-07 and 1907-08, 7 and 8 miles of Minor Distributary channels were made by the Patiala and Jind States respectively on Kotla Branch.

26. *Irrigation by branches* (*Appendix 12 A*).—The mean proportion of kharif to rabi is 35 to 65 as compared with the mean proportion of 40 to 60 during the last triennium. The proportion is practically the same on each branch. The marked feature of the period under review is the improvement in the rabi area irrigated in the States. Otherwise, the fluctuations recorded are those due mainly to seasonal variations.

27. *Navigation* (*Appendix 13*).—The maintenance charges are abnormally high owing to expenditure on protective works at Palla Lock. The metalled road from the railway at Sirhind to Rupar, constructed by the District Board, has considerably diminished the passenger traffic on the canal.

28. *General remarks, British Branches.*—The percentage of profit has increased to 8·02 from 7·32 in the previous triennium. Projects for irrigating the droughty tracts in the Hissar District by means of subsidiary channels from the Sirhind Canal, Main Line, have been worked up and are under consideration.

## Native States Branches.

29. *Financial results.*—The financial results on the working of the Native States Branches, as given in Appendix 16, include the share of the Main Line receipts creditable to, and the working expenses debitable to, each State. The average percentages of profit for the last three triennial periods are compared below with each other and with similar figures for the British Branches :—

| | 1901-02. | 1904-05. | 1907-08. |
|---|---|---|---|
| British Branches ... ... ... | 8·01 | 7·32 | 8·02 |
| Patiala State ... ... ... ... | 4·93 | 5·43 | 7·88 |
| Nabha State ... ... ... ... | 3·32 | 3·95 | 10·35 |
| Jind State ... ... ... ... | 5·41 | 6·18 | 8·05 |

The increase in percentage in the States is largely due to improvement in the control and distribution of water-supply.

30. *Area irrigated, supply and duty* (*Appendix* 17).—The duties secured on the Native States' Branches compare unfavourably with those on British Branches. On the British Branches the kharif and rabi duties averaged 95 and 188, respectively ; on Native States Branches these are 77 and 158, respectively, or 19 and 16 per cent. less. There is, however, a marked improvement upon previous records.

31. *Area irrigated in each State* (*Appendix* 18).—Kharif irrigation is fairly normal for the two periods, but the figures for the kharif of 1906 show what may be done in the Patiala State, and these are no final criterion of what should be done. The marked improvement in the rabi irrigation in all the States is very satisfactory.

## UPPER BARI DOAB CANAL.

32. *Capital Account* (*Appendix* 1).—The following are the most important works on which expenditure was incurred during the triennium, and they are either complete or nearly complete :—

(*a*) Extension of the Kahna Branch and Baddoki Minor ; the water-course system in Government waste land on the Rakh Distributary, the Hunjra and the Thatta Baliayara Minors and the Kahna Distributary.

(*b*) A rest-house with Subordinates' rest-house at Amritsar ; rest-houses at Thatta on Pull Distributary, and at Jadhodir and Jhedu on the Raewind and Kahna Distributaries ; residential quarters for Canal Officers at Amritsar ; Sub-Divisional Officer's and menial quarters at Aliwal ; a Subordinates' rest-house at Lahore Cantonment ; additions and alterations to six rest-houses, on the Main Branch Lower and one at Patti.

(*c*) Opening out drainage line between Vairka and Tung Dhab.

(*d*) Obtaining machinery worth some 1½ lakhs to equip Central Workshops.

A large expenditure was also incurred on extension of the Niaz Beg Distributary, but the work has been stopped pending further orders.

33. *Gross Revenue, realizations* (*Appendix* 2).—The comparatively small receipts of 1905-06 are due to heavy remissions on account of the failure of the cotton crop.

34. *Working Expenses* (*Appendix* 3).—The expenditure under Extensions and Improvements was incurred principally on the following works :—A sleeper boom at Madhopur ; an advanced cill to the canal inlet at Madhopur ; drainage siphons on Sobraon Branch and under tail of Faridnagar Feeder ; a rapid at R. D. 224,000 feet, Main Branch Lower ; extension of weir in Nalua Cut ; remodelling the Lahore Branch, Kohali, Chawinda and Behrwal Distributaries of the Lahore Branch and their minors, head reaches of the Pul Distributary, Ranewali Right and Left, Ghokewali and Manawala Distributaries ; remodelling masonry works and outlets on certain distributaries and minors in the 1st Division, Upper Bari Doab Canal ; constructing the Kaura and Ichhra Distributaries and Ballianwala Minor ; extending Minor No 3, Kahna Branch ; enlarging Raya Inspection House, and providing Sub-Divisional Officer's quarters, a Subordinates' rest-house at Bhoewal ; dispensary and Hospital Assistant's quarters at Raya and Aliwal ; Telegraph Office and Signallers' quarters at Kohali, Lahore Cantonment and Rasulpur ; additions and alterations to certain other buildings ; and remodelling or raising certain bridges.

35. The large increase of expenditure under Maintenance and Repairs was necessitated by an increased expenditure on the Head-Works in repairs and additions to the Training Works and in putting the outlet floor in thoroughly good order. The cill of the Madhopur Undersluices was raised one foot and the floor laid dry and thoroughly repaired upstream and downstream of the gates,

while an advanced cill to the inlet has been practically completed. Large outlay in protecting the right bank of the Chakki above the Dhangu Cut was necessitated by the set of the torrent, and increased expenditure was incurred on extending plantations on a working-plan.

36. *Net Revenue realized* (*Appendices* 4 *and* 5).—The net revenue of the year 1905-06 was low owing to the failure of cotton, while the decrease in that of 1907-08 was due to the increase in expenditure on improving and repairing the Head Works and to a smaller rabi crop consequent on the partial failure of the monsoons.

37. *Unrealized balances* (*Appendix* 6).—The large outstandings at end of the years 1906-07 and 1907-08 appear to be due to the prevalence of plague in the former year and famine in the latter.

38. *Remissions* (*Appendix* 9—*C*).—The very large remissions granted during kharif 1905 were due to the failure of cotton owing to boll-worm and during rabi 1906-07 to the damage done to wheat, barley and gram by untimely rains.

39. *Areas irrigated, supply and duty* (*Appendix* 10).—With the exception of the year 1907-08, when the river during rabi was low and rain scarce, the area irrigated during the period shows a marked increase over that of the previous triennium. The duty on supply utilized is also higher.

40. *Length of channels* (*Appendix* 11).—The net increase of 1 mile in Main Canal and Branches and the net decrease of 14 miles in Distributaries, are due to the rectification of previous errors. During the triennium, Ghannakar, Baddoki and Ballian Minors were constructed and Kahna Branch of Bhuchar Distributary extended (nearly 15 miles in all), while some $4\frac{1}{2}$ miles of Cantonment Distributary were closed and some $3\frac{1}{2}$ miles of certain minors on Khem Karn Distributary were abandoned.

41. *Irrigation by branches.* (*Appendix* 12 B).—There is a large increase of 96,532 acres as compared with the average irrigation done during the previous triennium, the increase being chiefly on the Main Branch Lower.

42. *Central Workshops.*—The shops have been developed and many new machines have been purchased. An Assistant Superintendent and an European Store-keeper have been added to the Establishment, and further additions are under the consideration of Government. The total value of work done during the triennium for Government Departments and for the general public amounted to Rs. 6,61,831—the former included an Earth Conveyor for the Upper Jhelum Canal and Shutters for the Lower Jhelum Canal.

43. *General remarks.*—The Upper Bari Doab Canal continues to be a very profitable investment. It yielded an average return of 11.34 per cent. against 12·48 per cent. in the previous triennial period.

## LOWER CHENAB CANAL.

44. *Capital Account* (*Appendix* 1).—The expenditure under this head was incurred mainly on the following works:—

*Main Line.*—Clearing a drainage cut from Ahmadpur siphon to Kot Nikka Branch Escape.

*Gugera Branch.*—Constructing the Dangali Major Distributary with Minors; outlets on Sharakpur and Nahra Distributaries; and an escape channel to the Bahlak Distributary.

*Buildings.*—Constructing an inspection house at Dangali and enlarging that at Mohlan where Subordinate's quarters and subsidiary buildings for the Sub-Divisional Officers' quarters were also constructed; and an office and quarters at Pacca Dalla for the Sub-Divisional Officer.

*General.*—Considerable improvements were effected in the water-course system of the Upper Gugera and Mian Ali Branches and in the Burala Division. The work of construction of water-courses is now practically completed.

45. *Gross Revenue, realizations* (*Appendix* 2).—The decrease in 1905-06 is due to the destruction of the cotton crop of 1905 by boll-worm, and that in 1907-08 to special remissions on wheat, gram and coriander damaged by excessive rainfall in rabi 1906-07.

46. *Working Expenses* (*Appendix* 3)—Expenditure under *Extensions and Improvements* was incurred mainly on the following works :—Improving the wire ropeway over Khanki Weir and extending the weir talus downstream ; opening up side spans and adding water wings to 13 bridges on the Gugera Branch Upper ; constructing a siphon at R. D. 43,000 feet, and adding 8 bays to the aqueduct at R. D. 19,600 feet of Chiniot Distributary ; constructing village and boundary road culverts on distributaries ; remodelling distributaries and outlets ; remodelling 8 rest-houses and 21 Subordinates' rest-houses ; constructing Sub-Divisional Offices at Wer and Kanya, and providing quarters for Signallers at the latter place ; enlarging 16 single cookhouses on the Kot Nikka, Gugera, Burala and Jhang Branches, and extending plantations in all Divisions.

47. Under *Maintenance and Repairs* some 3 miles of the inner side slopes of Main Line between Muradian and Sagar were protected with ballast or quarry refuse as well as certain portions of Rakh and Jhang Branches ; certain bays of the Khanki Weir were strengthened by laying two additional rows of concrete blocks upstream ; and 8 miles of the banks of the Jhang and Rakh Branches were strengthened and set back in places.

48. *Assessment and average rates per acre* (*Appendices* 7 *and* 8).—The decrease in the year 1905-06 is due to the failure of the cotton crop of kharif 1905 ; and that in 1906-07 to special remissions on wheat, gram and coriander. The assessment figures of 1907-08 show an increase over the preceding year, but are below the average of the preceding triennium owing to more liberal remissions in both seasons, the area remitted in 1907-08 being 20·5 per cent. as compared with an average of 6·1 per cent. in the preceding triennium. The large increase in assessment of owner's rate in 1907-08 is due to the rates being now assessed in many villages on the Jhang Branch owing to the expiry of the period of exemption.

49. *Remissions* (*Appendices* 9-*D and* 9-*E*).—As already explained remissions show a very marked increase owing to the cotton failure in 1905 ; the wheat and gram failure in 1906-07 ; the partial cotton failure in 1906 ; and the dry seasons of 1907-08.

50. *Areas irrigated* (*Appendix* 10).—The reduction in the area irrigated during kharif 1905 was due to the failure of the cotton crop. The increase in rabi 1905-06 was mainly due to the early sowings in that harvest consequent on the failure of the cotton crop in the preceding kharif. The decrease in the area irrigated during 1906-07 was due to the partial failure of cotton from boll-worm in kharif 1906, and extensive damage to wheat, gram and coriander by frequent rains at, and after, harvest time in rabi 1906-07. The year 1907-08 was also not favourable, partly on account of deficient rainfall, and partly because of damage caused to rabi crops by a hailstorm which swept over certain parts of the canal in the first week of April 1908.

51. *Length of channels* (*Appendix* 11).—The decrease in length of Distributaries is due to remodelling and conversion of distributaries into water-courses ; and increase (47 miles) under Drainage Channels is due to the addition of a drainage cut from Ahmadpur Siphon (Main Line) to Kot Nikka Escape in the Khanki Division.

52. *General remarks.*—The average working expenses of Re. 1·14 per acre during the triennium is very high as compared with Rs. 0·87 in the last triennium. This is due in great part to abnormal remissions which reduced the

area assessed. The actual working expenses have also increased owing to the necessity for maintaining all works in a condition capable of taking the large supplies now run, and to the additional expenditure entailed by the formation of a sixth Division, the effect of which was not fully felt in the preceding triennium.

53. The net accumulated profits, after defraying interest charges (which alone amount to Rs. 1,46,60,198) at the end of the year 1907-08, aggregate Rs. 3,81,90,225 against a Capital Outlay of Rs. 2,81,81,632. The Canal has now, at the end of 21 years, paid off both interest and capital charges with a surplus of Rs. 1,00,08,593.

---

## LOWER JHELUM CANAL.

54. *Capital Account* (*Appendix* 1).—Of the total sanction of Rs. 1,87,48,074 (direct and indirect charges), a sum of Rs. 1,58,79,032 had been expended at the end of 1907-08, the actual expenditure during the three years amounting to Rs. 16,26,591. This was incurred mainly on the following works :—

(1) *Shahpur Branch.*—The earthwork of the channel has been nearly completed; the head regulator, 9 bridges and falls, 6 district and 10 village road bridges and 4 foot bridges were completed; inspection houses were built at Miani, Chak Qazi, Nabba, Saidal and Shahpur on the Branch Canal, and one distributary rest-house at Hussain Shah.

(2) The Chenab Khadir Feeder and Distributary were completed, as also the minors and water-courses.

(3) The minors and water courses of Massan Distributary at tail of Northern Branch were completed.

(4) Distributaries Nos. 11-R, 12-R, 13-R and 14-R of Northern Branch with their water-courses, and one inspection house, were completed.

(5) The Budhi Nala Escape at tail of Northern Branch was constructed.

(6) Water-courses in a considerable portion of the Ara Assessment Circle on Sulki Branch were constructed.

(7) Flour mills have been built at mile 3, Sulki Branch, and mile 3 Khadir Feeder, and at mile 5, Northern Branch, and were nearly completed; also at mile 13, Northern Branch.

(8) Masonry outlets have been constructed on nearly all distributaries.

(9) Several Telegraph Offices and Signallers' quarters, gauge readers' huts and patwarkhanas were built.

55. The following are the works remaining to be constructed before the Project Estimate is closed :—

(*a*) *Head Works.*—Erecting wire ropeway over weir.

(*b*) *Main Line.*—Extending the stone pitching of canal slopes in 1st mile; completing the discharge run at Ala (mile 14); building a needle regulator across the canal below the off-take of Shahpur Branch.

(*c*) *Northern Branch.*—Three additional rest houses on Distributaries, and a flour mill at tail of the branch.

(*d*) *Southern Branch.*—Three additional rest-houses on Kirana Distributary system; Telegraph Offices at Tinoka and Vinoke.

(*e*) *Sulki Branch.*—Boundary road culverts for Faruka Distributary water-courses.

(*f*) *Shahpur Branch.*—Discharge run at head, bridge for the Jech Doab Railway at mile 2½; drainage siphon at mile 6½; completion of 5 village road bridges and 5 foot bridges, which are now in progress; the construction of all the distributaries and of 4 Inspection houses on them.

(*g*) *Miscellaneous works.*—Construction of a few remaining outlets and patwarkhanas.

56. *Gross Revenue, realisations* (*Appendix* 2).—In each year of the period the gross direct revenue has been less than the amount shown in the financial forecast of the Project Estimate; thus—

| | *Gross Direct Revenue.* | *Forecast.* |
|---|---|---|
| | Rs. | Rs. |
| 1905-06 ... | 7,78,822 | 11,65,000 |
| 1906-07 ... | 13,56,605 | 18,05,000 |
| 1907-08 ... | 13,62,263 | 20,60,000 |
| Total ... | 34,97,690 | 50,30,000 |

This represents a total shortage, during the triennium, of Rs. 15,32,310, which was due mainly to the wholesale remissions given in respect of cotton destroyed by boll-worm in 1905 and to remissions on account of plague in rabi 1906-07. The value of these remissions (including both water-rate and land revenue) was approximately Rs. 4,01,000 for cotton and Rs. 8,36,000 for wheat, and but for these the actual realisations would not have differed materially from the forecast.

57. *Working Expenses* (*Appendix* 3).—The average annual cost during the triennium, including both direct and indirect charges, amounted to Rs. 7,52,159, representing an incidence of Rs. 1·58 per acre of irrigation. This is a heavy rate, but the expenditure on *Maintenance and Repairs* included very large sums for repairs to Bay No. 6 of the weir, which was seriously damaged during the flood of September 1905, and for raising by 2 feet the height of the shutters in Bays Nos. 1 to 4 of the weir. The cost of maintaining the banks of all channels was also still high. It may be confidently hoped that the rate of working expenses will steadily decrease in the future. Under *Extensions and Improvements* the expenditure incurred was chiefly for Telegraph Offices, Signallers' and Beldars' quarters, Canal dispensaries and Hospital Assistants' quarters, and for remodelling distributaries.

58. *Net Revenue realised* (*Appendices* 4 *and* 5).—In the forecast attached to the revised Project Estimate, the net revenue (including enhanced land Revenue) of the three years under review was expected to be—

| | Rs. |
|---|---|
| 1905-06 ... ... ... | 9,75,125 |
| 1906-07 ... ... ... | 17,29,375 |
| 1907-08 ... ... ... | 23,05,500 |
| Total ... | 50,10,000 |

while the actual net revenue realised was Rs. 19,11,827 or say Rs. 30,98,000 less. This deficiency was made up (in round figures) as follows:—

| | Rs. |
|---|---|
| Direct income... ... ... | 15,32,000 |
| Indirect income ... ... | 12,79,000 |
| Excess cost of working expenses ... | 2,87,000 |
| Total ... | 30,98,000 |

Of the deficiency in direct income, Rs. 12,37,000 was due to remissions for cotton in 1905 and wheat in 1906-07, and the remaining deficiency was partly in respect of Shahpur Branch, which was assumed in the forecast to be opened for irrigation in 1906-07.

59. As regards the indirect income, the enhanced land revenue was, in the forecast, calculated on an irrigated area (for the three years) of 1,795,000 acres, whereas the area actually irrigated and matured was only 1,425,271 acres. This, however, by no means accounts for the very large deficiency of Rs. 12,79,000 shown above, and it would appear that the indirect revenue must have been over-estimated.

60. The excess cost of working expenses has already been explained as due to special non-recurrent expenditure on the weir and to the heavy cost of maintaining the banks of channels duri g the early years of their working.

61. *Assessment and average rate per acre* (*Appendices 7 and* 8).—The steady increase in assessment is due partly to development of irrigation and partly to the increased proportion of the irrigation becoming assessable at full rates. The percentage of total irrigated area remitted under Tenancy Rules was 16·5 in the period under review against 37·8 per cent. in the preceding triennium. The increased rate per acre in both seasons during each year is due to the decreasing proportion of the area exempted from assessment under the tenancy conditions.

62. *Remissions* (*Appendix 9-F*).—Deducting the remissions representing exemptions under the Tenancy Rules, the percentage on area assessed of the area remitted in each crop of the triennium was as follows—

| | | | | |
|---|---|---|---|---|
| Kharif 1905 | ... | ... | ... | 93·9 |
| „ 1906 | ... | ... | ... | 12·2 |
| „ 1907 | ... | ... | ... | 37·3 |
| Rabi 1905-06 | ... | ... | ... | 9·2 |
| „ 1906-07 | ... | ... | ... | 94·1 |
| „ 1907-08 | ... | ... | ... | 14·5 |

The percentages, 93·9 and 94·1, respectively, for kharif 1905 and rabi 1906-07 may, for purposes of fair comparison, be reduced to 21·8 and 21·3 by excluding the areas of cotton in the former crop and wheat in the latter crop, since these were duly matured so far as the growth of the plants was concerned, but were subsequently lost owing to special calamities. The percentages thus varied between 9·2 and 37·3. Deducting 247,633 acres of cotton and wheat, referred to above and 230,048 acres exempted under Tenancy Rules, there remains an area of 231,022 acres on which total remissions for ordinary causes were granted during the triennium. The total area matured during this period was 1,425,271 acres, so that the area remitted represented 16·5 per cent. of the area matured. This exceedingly high percentage was due to calamities and pests of various kinds, non-germination of seed, bad soil, late sowing and bad husbandry, and only to a quite inappreciable extent to short supply or other causes for which the Canal Department was responsible.

63. *Area irrigated, supply and duty* (*Appendix* 10).—The areas expected to be irrigated on the canal excluding Shahpur Branch in the three years of the period are compared below with the sum of those actually matured and those on which remissions were given :—

| Year. | Irrigated area as per forecast. | Actual area. | | |
|---|---|---|---|---|
| | | Matured. | Kharaba. | Total. |
| | Acres. | Acres. | Acres. | Acres. |
| 1905-06 ... ... | 530,000 | 446,639 | 125,456 | 572,115 |
| 1906-07 ... ... | 640,000 | 435,083 | 241,151 | 676,234 |
| 1907-08 ... ... | 660,000 | 543,529 | 112,048 | 655,577 |
| Total ... | 1,830,000 | 1,425,271 | 478,655 | 1,903,926 |

It will thus be seen that the total area irrigated was 73,926 more than estimated in the forecast, while the area matured was 404,729 less. If, however, this

deficiency be reduced, as it may fairly be, by the area of cotton crop (80,305 acres) and of wheat crop (167,328 acres) duly matured by the canal, but lost from speeial calamities, the shortage becomes 157,096 acres, which is not a large figure, and is to be attributed chiefly to poor soil and inferior husbandry.

64. The average supply in canal in both seasons has increased steadily in each succeeding year.

65. The duties exhibited are very poor. This is due partly to the large areas remitted, but also in a greater measure to the fact that the cultivators on this canal have never known the pressure of scanty supplies, and that land newly brought under cultivation requires more water than will eventually suffice.

66. *Length of channels* (*Appendix* 11).—During the triennium 433 miles of distributaries were constructed and 23 abandoned. The Shahpur Branch is under construction and its distributaries remain to be constructed.

67. *Irrigation by branches.* (*Appendix* 12-*D*).—The chief features of this table are the marked growth of irrigation on the Southern Branch, and the continued small proportion of kharif on Sulki Branch which was noticed in the last triennial report.

## UPPER SUTLEJ INUNDATION CANALS.

68. *Capital Account* (*Appendix* 1).—The expenditure under this head was incurred chiefly on constructing the Jajjal rest-house and on water-courses, roads and culverts in Crown waste lands, and water-courses in old village lands on the Malka Hans and Dhapai Distributaries.

69. *Working Expenses* (*Appendix* 3).—The expenditure under *Extensions and Improvements* was incurred chiefly on the following works:—Extending and remodelling Dhing Shah Minor and the Haveli Distributary; remodelling Deoki, Pial and Khudian Regulators; constructing two bridges on the Lower Sohag Canal, one on Upper Sohag, one on Khanwah Canal, and one on Hujra Minor; constructing a feeder line for the Haji Chand Distributary; constructing a new masonry head and extending the Head Reach Channel of Bejanpur Minor; fixing boundary pillars and constructing a needle regulator, Lower Sohag Canal; constructing a dispensary and Hospital Assistant's quarters at Nijabat; converting Gulshah Weir into a regulator; improving certain rest-houses; and acquiring land for certain extensions, &c.: and under *Maintenance and Repairs* on the silt clearance of canal heads and maintenance of channels; excavating a reserve head for the Khanwah Canal, and a new alternative channel, Upper Sohag Canal; closing Jalloke Creek at the offtake of Khanwah Canal; repairing Bejanpur Minor from head to tail, a diversion of the Lower Sohag Canal near Haveli; extending Majahadke Supply Channel to the river; raising banks, Upper Sohag Canal; and remodelling certain channels.

70. *Net Revenue* (*Appendices* 4 *and* 5).—The increase in the average net revenue is due to the rise in the area irrigated. The large fall in revenue in 1905-06 was due to the remission of some $2\frac{1}{4}$ lakhs owing to the failure of the cotton crop.

71. *Unrealized balances* (*Appendix* 6).—The large unrealized balance at end of 1905-06 was chiefly due to unavoidable delay in inspecting the cotton crop, and consequently in the submission of the Demand Statements.

72. *Assessments and rate per acre* (*Appendices* 7 *and* 8).—The assessments of the year 1906-07 exceed those of the previous record. The decrease in 1907-08 is due to partial failure of supply.

73. *Remission* (*Appendix* 9-*G*).—The large remissions of kha if 1905 were due to the failure of cotton, and those of kharif 1907 to a sudden drop in the river at end of August 1907. The statement does not show the full extent of relief given, as it excludes class remissions and remissions given after despatch of Demand Statements. Class remissions granted for kharif 1905 were very large and amounted to over Rs. 1,20,000.

74. *Area irrigated, supply and duty* (*Appendix* 10).—The large area in rabi 1906-07 was due to the favourable floods of August 1907, and the decrease in 1907-08 to the unfavourable state of the river, want of rain and the introduction of the system of granting remissions by reduction of area instead of by change of class. On the whole, however, the area irrigated exceeds that of the previous triennium.

75. *Length of channels* (*Appendix* 11).—The small change in the length of channels during the period is chiefly due to the increase in the lengths of the heads of certain channels, extension of Turbat Minor, and rectification of certain errors.

## SIDHNAI CANAL.

### (Including the Koranga, Fazil Shah and Abdul Hakim Subsidiary Canals).

76. *Working Expenses* (*Appendix* 3).—The principal works under *Extensions and Improvements* were fixing boundary pillars ; extensions of avenues and plantations ; making a village road bridge on the Fazil Shah Canal ; building a weir on Makhdum Rashid Distributary and building outlets on Koranga, Fazil Shah and Abdul Hakim Canals.

77. *Net Revenue realized* (*Appendices* 4 *and* 5).—The increase in percentage is due to the canal having been longer in flow than during the previous triennium.

78. *Unrealized balances* (*Appendix* 6).—There has been a marked improvement in the collection of water-rates during the year 1907-08 as compared with the two previous years.

79. *Remmissions of water-rates* —Assessment and remissions are made by the civil authorities, and details as to the areas remitted and the causes of remission are not communicated to the Irrigation Department.

80. *Area irrigated, supply and duty* (*Appendix* 10) —The average annual area irrigated works out to 158,027 acres against 138,897 acres in the previous triennium. The river was generally low in the year 1907-08 and fell rapidly towards the close of the flow season, adversely affecting both crops. The year 1906-07 was a most favourable one.

81. *Irrigation by canals* (*Appendix* 12-*E*) —The low average kharif area is due generally to short duration of supplies. The percentage of remissions is 30 as against 24 for previous triennium ; it rose to 42 in 1907-08 a year of very low supplies in the river.

82. *General remarks.*—During the period under report many improvements have been carried out. Channels have been remodelled and banks strengthened. The remodelling of the canals has proved most beneficial.

## INDUS INUNDATION CANALS.

83. *Capital Account* (*Appendix* 1).—The expenditure under "49" Capital was rather more than that of the previous triennial period ; the following progress was made on the three project heads now in hand :—

(1) *Manka Project.*—The Manka Canal Flood Regulator was remodelled and an escape head and channel provided ; the canal itself was straightened in several reaches and a new feeding channel excavated ; a regulating head was built for the Lower Shoria Branch and the Gadai, Kot Chhutta, Pipalwala, Yaru and Aliwala Minors were excavated and provided with masonry heads and road bridges ; a new head reach was excavated for the Lower Shoria Branch, on which two falls were built, also

the Polwala Distributary of this branch was excavated, and a masonry head and road bridge constructed for it ; the Baja and Nur Branches of the Manka Canal were remodelled.

(2) *Talai Project.*—The Kadra Canal was provided with a flood regulator and escape head, and the excavation of the new Kadra Canal in the upper 9 and lower 10 miles was commenced and nearly completed ; the remodelling and straightening of the central 10 miles was commenced ; masonry heads and road bridges were constructed for the Mehrewala, Talai, Hazuri, Fazil, Kalu, Raj and Mubarik Distributaries of the Dhundi Kutab Canal, and for the Islam Branch of the Nur Dhundi Canal ; these distributaries and branches were remodelled and provided with road bridges, and the two canals were straightened and remodelled in several reaches ; the Talai Bund was completed down to the Kadra Flood Regulator and nearly completed for 9 miles below this regulator ; the Patni and Silra rest-houses were constructed, and the Rojhan rest-house enlarged.

(3) *Dhingana Project.*—Extensive surveys were carried out and the excavation of the Jampur Distributary of the Dhingana Canal commenced.

84. *Gross Revenue, realizations* (*Appendix* 2).—The figures for all three years show a considerable increase ; the decrease for the year 1907-08, in direct receipt is due to deficient supply in all canals.

85. *Working Expenses,* (*Appendix* 3).—The expenditure on annual silt clearances was about normal for the years 1905-06 and 1906-07 and high for the third year. In addition to the above, the following are the principal works carried out :—The Khosewala head of the Manka Canal was widened and a masonry head provided for its Baja Branch ; the Pir Adil and Rana Flood Embankments were constructed ; the Baja and Nur Branches were widened and remodelled, and a regulating head built ; the flood embankments at Dera Ghazi Khan were raised and strengthened ; improvements were carried out on the Nur Dhundi and Dhundi Kutab Canals by straightening crooked reaches ; the widening and remodelling works on the Baja and Nur Branches were completed ; an escape head was constructed for the Nur Dhundi Canal ; and the lower Borwala and Kutab groynes were extended.

86. *Net Revenue realized* (*Appendices* 4 *and* 5).—The abnormally low river in 1907-08, and increased expenditure on improvements from which it is yet too early to expect results, have led to a decrease in the net revenue ; at the same time the large outlay on new and uncompleted work has led to a falling-off in the percentage of earnings on Capital.

87. *Assessment and rate per acre* (*Appendices* 7 *and* 8).—The revenue assessment (direct and indirect) during the years 1905-06 and 1906-07 was only slightly better than the average of the triennium ; the *direct* assessment of these two years was considerably higher than that of 1907-08, but the *indirect* assessment was less.

88. *Area irrigated, supply and duty* (*Appendix* 10).—The average irrigation is below that of the previous triennium by about 15,400 acres. In 1905-06 and 1906-07 the supply was fairly good, although the period of flow was shorter than usual, but in 1907-08 the river rose very late and fell very early in the season, while the floods were of little use as they only lasted a short period and were the cause of the Nur Dhundi, Kasturi and Dhingana Canals being silted up by erosion.

89. *Length of channels* (*Appendix* 11).—The total length of Main Canals and Branches remains unchanged, but there is an increase of 35 miles in the length of distributaries.

90. *Working of canals* (*Appendix* 12-*G*).—The average area irrigated is less than during the previous triennial period. This is entirely due to the disastrous year 1907-08. The years 1905-06 and 1906-07 were decidedly better than the previous three years except 1903-04, and the average of these two years on every channel gives an increase on the previous triennial period. The percentage of remissions is 23 as against 20 for the previous triennium, the increase being largely due to the year 1907-08 in which the percentage rose to 31.

## MINOR IRRIGATION WORKS.

### SHAHPUR (IMPERIAL) CANALS.

91. *Capital Account* (*Appendix* 19).—No Capital expenditure was incurred during the triennial period under report.

92. *Gross Revenue realizations* (*Appendix* 20).—The average annual collections were considerably less than in the three preceding triennia, owing to the following causes, *viz.*, heavy remissions for cotton in 1905 on account of boll-worm, and again for wheat in 1906-07 in consequence of the virulence of plague, which prevented the cultivators from reaping the crop at the proper time. For the same reason the cultivators were unable to sow their kharif crop in May 1907, and as the river subsided very early, the canals were in flow for a very short period during the season of 1907, and the area under crop was greatly diminished.

93. *Working Expenses* (*Appendix* 21).—Under *Extensions and Improvements* the expenditure was mainly for a well at Shahpur rest-house. The average amount spent on *Maintenance and Repairs* was higher than in the previous triennium, partly because a new head channel for Sahiwal Canal had to be excavated in 1905, and partly owing to specially heavy silt clearances having been required in 1907-08.

94. *Net Revenue realised* (*Appendix* 22).—The results of the triennium were very unfavourable, since in two out of the three years the income earned by the canals was greatly reduced by the heavy special remissions which had to be given, while the cost of maintenance was specially high.

95. *Unrealised balances of occupiers' rates* (*Appendix* 24).—The decrease at the end of the year 1907-08 is satisfactory as compared with the unrealized balances at the end of the two previous years.

96. *Assessments and rate per acre* (*Appendices* 25 *and* 26).—For reasons already detailed the average annual assessment was less than in any of the three previous triennial periods. The average rate per acre in kharif was somewhat less than in previous years, while that of the rabi crop remained constant.

97. *Remissions* (*Appendix* 27).—The whole area assessed in the six crops composing the triennium was 66,846 acres, while the area remitted amounted to no less than 29,617 acres, or 44 per cent. of the assessed area. In the previous triennium the corresponding figures were 94,191 acres assessed, 577 acres remitted, or,0 61 per cent of the assessed area. These figures show that in the period under review there was no reduction in the area actually irrigated, but that, apart from the special remissions for boll-worm and plague, remissions were granted on a far larger scale than in previous years. The average annual value of the remissions amounted to Rs. 24,584, and but for these the net revenue would have averaged Rs. 46,592 instead of Rs. 22,008.

98. *Area irrigated, supply and duty* (*Appendix* 28).—The average annual area irrigated and matured was 22,282 acres against 31,397 acres in the previeus triennium. The decrease was due chiefly to the areas remitted on account of special calamities in kharif 1905 and rabi 1906-07. During 1907

the canals were in flow for only 86 days, or for a shorter period than in any year since 1893, the reason being that owing to plague there was no demand for the canals to be opened till the end of May, and the river subsiding early left the canals practically dry in the middle of August. The average duty during the triennium was, therefore, very low.

99. *Length of channels in operation* (*Appendix* 29).—The figures show a decrease in mileage amounting to 14 miles, due partly to certain lengths of channels having been eroded by the river and partly to errors found in previous figures, having been rectified.

100. *General remarks.*—The following table compares some of the more important results of the triennium under review with those of the previous period :—

| Description. | | Triennium ending 1905. | Triennium ending 1908. |
|---|---|---|---|
| Average net revenue realised ... | Rs. | 52,433 | 22,008 |
| ,, percentage on capital outlay | Rs. | 24·28 | 10·19 |
| ,, working expenses per acre ... | Rs. | 1·51 | 2·19 |
| ,, area irrigated { Kharif ... | Acres. | 11,387 | 5,760 |
| ,, area irrigated { Rabi ... | Acres. | 20,010 | 16,522 |
| ,, occupiers' rate { Kharif ... | Rs. | 2·33 | 2·21 |
| assessment. { Rabi ... | Rs. | 2·50 | 2·50 |

## SHAHPUR (PROVINCIAL) CANALS.

101. *Gross Revenue realisations* (*Appendix* 20).—The average annual gross revenue amounted to Rs. 44,697 against Rs. 56,955 in the previous triennium. The decrease was due to special remissions for cotton in 1905, and for wheat (on account of plague) in 1906-07, as also to early failure of supply in 1907.

102. *Working Expenses* (*Appendix* 21).—The expenditure under *Extensions and Improvements* was very petty. That under *Maintenance and Repairs* was slightly more than in the previous triennium. The rate of working expenses per acre was Re. 1·62 against Re. 1·20 in the previous period.

103. *Net Revenue realised Appendix* 22).—The average annual net revenue fell from Rs. 26,118 during previous triennium to Rs. 12,412 during the period under review. This was due to the heavy loss of revenue on the wheat crop of 1906-07, the shortage in kharif area 1907 caused by the low river supplies and to the cost of two diversions which had to be constructed on the Western Feeder of Raniwah Canal in consequence of this channel having been eroded by the river.

104. *Remissions* (*Appendix 27-A*).—The area assessed in the six crops of the triennium was 59,762 acres, while the area remitted was 16,311 acres, or 27 per cent. of the assessed area. In the previous triennium the figures were 78,242 acres assessed and 1,183 acres remitted or 1½ per cent. of the assessed area. These figures show that in the period under review the decrease in total area irrigated was insignificant ; while of the 16,311 acres remitted, 3,379 acres were exempted under Tenancy Rules, and no such remissions were shown in the previous triennium, though they must have been given, as they refer to the lands of the late Malik Sher Muhammad Khan, which, since 1891, have received free irrigation. Deducting these 3,379 acres, as also 1,097 acres for boll-worm in kharif 1905 and 4,153 acres on account of plague in rabi 1905-07, there re-

mains an area of 7,682 acres on which *ordinary* remissions were given. This represents 13 per cent. of the assessed area, and it is evident that, as in the case of the Shahpur Imperial Canals, remissions were granted on a much more extensive scale than in the preceding triennium.

105. *Areas irrigated, supply and duty* (*Appendix* 28).—The average annual area irrigated was 19,921 acres against 26,081 acres in the previous triennium. Of the decrease of 6,160 acres, about 3,000 acres represent the excess of areas on which remissions had to be granted, and the remaining shortage was due to the unfavourable working of the canals in 1907 consequent on a low river. The supply in the canals was good in 1905, fair in 1906, and poor in 1907. The duty in each of the three years was less than in any year since 1898.

106. *Length of channels* (*Appendix* 29).—There was a decrease of 17 miles in the mileage of channels, due to the re-transfer of the Pind Dadan Khan Canal to the Municipality in 1905-06.

107. *General remarks.*—The following table compares some of the more important results of the period under review with those of the previous triennium:—

| Description. | | | Triennium ending 1905. | Triennium ending 1908. |
|---|---|---|---|---|
| Avarage net revenue realized ... | ... | Rs. | 26,118 | 12,412 |
| „ working expenses per acre | ... | Rs. | 1·20 | 1·62 |
| „ areas irrigated ... | Kharif | Acres | 16,447 | 12,977 |
| | Rabi | Acres | 9,634 | 6,943 |
| „ occupiers' rate assessment | Kharif | Rs. | 1·44 | 1·29 |
| | Rabi | Rs. | 2·32 | 2·29 |

## LOWER SUTLEJ INUNDATION CANALS DIVISION.

108. *Gross Revenue, realizations* (*Appendix* 20).—Occupiers' rates steadily increased till 1906-07, but decreased slightly in 1907-08, due to the adverse effect of a low river. The total receipts, direct and indirect, however, were higher in 1907-08 than in the previous year.

109. *Working Expenses* (*Appendix* 21).—Under *Extensions and Improvements* is included cost of constructing wells and adding to the out-house accommodation of two of the rest-houses and constructing or reconstructing bridges, siphons and masonry outlets.

110. *Net Revenue realized* (*Appendix* 22).—Increase in revenue is due to improved working of the canals and to increased economy, the working expenses per acre being 1·28 against 1·66 in the previous triennium.

111. *Zar-i-nagha realization and expenditure* (*Appendix* 23).—The fund was finally closed in 1906-07.

112. *Assessment and rate per acre* (*Appendices* 25 *and* 26).—The decrease in miscellaneous revenue assessment is due to the *chher* labour system having been abolished. The other assessments follow the irrigated area.

113. *Areas irrigated, supply and duty* (*Appendix* 28).—There was a steady increase in the area irrigated up to end of 1906-07. The gross area of irrigation in 1905-06 which was 289,201 is the largest on record, and had it not been for the total failure of the cotton crop the matured area also would have been a record one. The gross area of 1906-07 is 282,234 acres and is the second largest on record, while the matured area of this year, 227,041 acres, is the largest on record, the next largest being 221,729 acres in 1900-1901. The year 1907-08 was a very unfavourable one owing to an exceptionally low river.

114. *Length of channels* (*Appendix* 29).—The increase in Main Canal is due to the excavation of alternative heads and diversions. In distributaries the decrease is due to the abandonment of a small distributary which is now used as a water-course.

115. *General remarks.*—As the present canals are likely eventually to be superseded by canals regulated by a weir, costly improvements are not now being undertaken.

## CHENAB INUNDATION CANALS.

116. *Gross Revenue realizations* (*Appendix* 20).—The average of the triennium shows an increase of about Rs. 30,000 over the previous triennium.

117. *Working Expenses* (*Appendix* 21).—The works done under *Extensions and Improvements* were the completion of the Daurana Langana Canal; constructing a combined Telegraph Office and Beldars' quarters at Nawabpur and an inspection house at Munjkoha; and building a needle regulator on Matithal Canal. Under *Maintenance and Repairs*, supply channels for the various canals were cleared; the subsidiary head of Sikandrabad Canal was excavated; a new flood embankment at Gagra Kalandar was constructed; the banks of Wali Muhammad Canal were improved; and the Daurana Langana Canal was widened.

118. *Areas irrigated, supply and duty* (*Appendix* 28).—The average annual area irrigated works out to 139,515 acres against 117,729 acres in the previous triennium. The decrease in duty for 1907-08 is due to the small area irrigated owing to an unfavourable river.

119. *Length of channels* (*Appendix* 29).—The increase in the length of Main Canal is due to the extension of the Matithal Canal from Mankot Regulator to tail, and extending the tail of Sikandrabad Canal. The increase in the mileage of distributaries is due to excavation of the Shahpur Distributary at tail of Sikandrabad Canal.

120. *Irrigation by canals* (*Appendix* 30-*C*).—The decrease in the rabi area in 1907-08 was due to the low river and consequent low supplies in the canals. The year 1906-07 was a favourable one, the percentage of failed crop being 18. The average percentage is 25 against 23 for the triennium ending 1905. There is, however, an appreciable increase of 21,785 acres of irrigation matured, due to improvements of canals.

121. *General remarks.*—The record is one of steady progress, and the construction of subsidiary heads and the reduction and amalgamation of outlets have proved beneficial.

## MUZAFFARGARH INUNDATION CANALS.

122. *Working Expenses* (*Appendix* 21).—The increase in expenditure under Imperial is due to many important remodelling schemes having been carried out; the construction of several regulators; heavy silt clearances; excavation of new channels; and the abolition of the *chher* labour system.

123. *Net Revenue realized* (*Appendix* 22).—Increased working expenses, combined with the fact that 1907-08 was an unfavourable year, account for the decrease in net revenue.

124. *Zar-i-nagha realization and expenditure* (*Appendix* 23).—The fund was closed owing to the abolition of the *chher* labour system.

125. *Assessment and rate per acre* (*Appendices* 25 *and* 26).—The decrease in assessment is chiefly due to the year 1907-08 being a most unfavourable one, owing to low rivers. The average occupiers' rate per acre shows very little variation since last triennium.

126. *Area irrigated, supply and duty* (*Appendix* 28).—The area irrigated is slightly less (about 3 per cent.) than in the previous triennium ending 1904-05, but the duties are much improved. Deficiency in area is due entirely to the bad year of 1907-08.

## GHAGGAR CANALS.

127. *Capital Account* (*Appendix* 19).—The total amount expended on the Capital Account only amounts to Rs. 76 during the period.

128. *Gross Revenue realizations* (*Appendix* 20).—The old areas which used to receive water from the river before the construction of the Otu Regulator are not assessed to occupiers' rates. The gross revenue amounted to an average of Rs. 8,327.

129. *Working Expenses* (*Appendix* 21).—The expenditure under *Extensions and Improvements* included the construction of a Telegraph Office at Otu; remodelling a foot bridge; and some pitching near the canal heads.

130. *Net Revenue realized* (*Appendix* 22).—Only a small portion of the area irrigated is assessed at occupiers' rates, and the irrigation accounts show a loss each year. The net loss in the triennial period amounted to 6·27 per cent. on the capital cost. In the previous triennium the loss was 9·22 per cent.

131. *Areas irrigated, supply and duty* (*Appendix* 28).—The year 1906-07 was a favourable one, but during the whole period of three years the canal only ran on the average 58 days in kharif and 14 days in rabi.

132. *Irrigation by branches* (*Appendix* 30-*E*).—Most of the area on direct minors was irrigated from the river before the construction of the Otu Regulator. The Irrigation from these minors and from culverts under the embankment is shown separately. River irrigation below the weir, both in British and Bikaner Territory, is also shown.

133. *General remarks.*—The canals were useful in furnishing employment for famine labour during construction in 1905-06-07. By holding up the water they prevent destructive floods in the valley below the Otu Lake, and they prevent waste in the swamps below. They increase the area under winter crops in the valley which was very much restricted before.

---

## RAVI (PROVINCIAL) INUNDATION CANALS.

134. *Gross Revenue realizations* (*Appendix* 20).—The average gross realizations very much exceed that of the two years 1903-04 and 1904-05 before the canals were taken over by this Department, the increase having taken place both in direct as well as indirect receipts.

135. *Working Expenses* (*Appendix* 21).—The increase in the charges incurred under *Maintenance and Repairs* during 1905-06 is due to the excavation of a reserve head for the Sukhrawa Canal, which was completed during that year. The increase under other heads is chiefly under Establishment.

136. *Net Revenue realized* (*Appendix* 22).—The operations resulted in a net profit of Rs. 4,697 against a loss in former years; the improvement is due to better realizations.

137. *Unrealized balances* (*Appendix* 24).—The large balance outstanding at end of the year 1905-06 was chiefly due to the late commencement of *kharaba* inspections in Upper Sutlej Division during kharif and consequent delay in submission of Demand Statements.

138. *Assessments and rate per acre* (*Appendices* 25 *and* 26).—The fall in assessment of occupiers' rates during 1907-08 is due to very low supplies in the river and absence of favourable floods. The average assessment of the period, however, appreciably exceeds the average of the previous triennium.

139. *Remissions of occupiers' rates* (*Appendix* 27-*B*).—The large remissions granted during kharif 1907 were due to the very low supply in the river after 15th August and to a failure of the rainfall thereafter.

140. *Length of channels* (*Appendix* 29).—The increase of length in 1905-06 was due to the excavation of reserve head, Sukhrawa Canal. The small decrease in 1907-08 was due to the abandonment of Head No. 1, Nikki Canal, and rectification of certain errors.

141. *Irrigation by branches* (*Appendix* 30-*F*).—Irrigation has increased on all branches, especially on the Nikki Canal.

142. *General remarks.*—The canals have improved financially since the last triennium.

## RANGOI CANAL.

143. The Rangoi District Board Canal continued to be in charge of the Irrigation Department during the period under review.

144. The following expenditure was incurred :—

| | 1905-06. | 1906-07. | 1907-08. |
|---|---|---|---|
| Works ... ... ... ... | 3,507 | 2,467 | 3,948 |
| Establishment ... ... ... ... | 3,618 | 3,631 | 3,579 |
| Tools and Plant ... ... ... ... | 118 | 86 | 82 |
| Total ... | 7,243 | 6,184 | 7,609 |

145. The amounts realized as revenue receipts for irrigation are shown below :—

| | 1905-06. | 1906-07. | 1907-08. |
|---|---|---|---|
| Occupiers' rates ... ... ... ... | 316 | 1,280 | 7,083 |

It will be seen from these tables that the realizations do not cover the working expenses.

146. The areas irrigated are shown in the following table :—

| | 1905-06. | 1906-07. | 1907-08. |
|---|---|---|---|
| | Acres. | Acres. | Acres. |
| Kharif ... ... ... ... | 339 | 410 | 1,244 |
| Rabi ... ... ... ... ... | 2,190 | 11,177 | 212 |
| Total ... | 2,529 | 11,587 | 1,456 |

During 1905-06 the canal only ran for five days in July and seven days in September; the demand was intense and could not be met.

In 1906-07 the canal ran for 55 days, with the result that 410 acres were irrigated in kharif and 11,177 acres in rabi; the collection on the rabi being credited in the following year makes that year appear to be a profitable one, but as a fact the canal only ran 18 days in 1907-08 and then not continuously.

# APPENDICES.

# APPENDIX 1.

## MAJOR IRRIGATION WORKS.

CAPITAL ACCOUNT (DIRECT AND INDIRECT).

| Canals. | Outlay to end of March 1905. | Outlay during | | | Outlay to end of March 1908. |
|---|---|---|---|---|---|
| | | 1905-06. | 1906-07. | 1907-08. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Rs. | Rs. | Rs. | Rs. | Rs. |
| **WESTERN JUMNA CANAL.** | | | | | |
| Imperial ... ... ... | 1,72,75,463 | 21,805 | 40,328 | 17,112 | 1,73,54,708 |
| Patiala State (Contributions) ... ... | 11,41,696 | 2,238 | 1,466 | 649 | 11,46,049 |
| **SIRHIND CANAL.** | | | | | |
| Imperial ... ... ... | 2,48,37,227 | 12,437 | 71,892 | 72,683 | 2,49,94,239 |
| Patiala, Nabha and Jind States ... | 1,41,04,078 | 1,184 | 5,689 | ... | 1,41,10,951 |
| **UPPER BARI DOAB CANAL.** | | | | | |
| Imperial ... ... ... ... | 1,98,23,305 | 1,57,834 | 83,980 | 5,50,916 | 2,06,16,035 |
| **LOWER CHENAB CANAL.** | | | | | |
| Imperial ... ... ... ... | 2,81,00,904 | 1,11,325 | 15,519 | −46,116 | 2,81,81,632 |
| **LOWER JHELUM CANAL.** | | | | | |
| Imperial ... ... ... ... | 1,42,52,441 | 6,92,313 | 5,08,870 | 4,25,408 | 1,58,79,032 |
| **UPPER SUTLEJ INUNDATION CANALS.** | | | | | |
| Imperial ... ... ... ... | 17,20,734 | 18,643 | 11,666 | 1,511 | 17,52,554 |
| **SIDHNAI CANAL.** | | | | | |
| Imperial ... ... ... ... | 13,02,797 | 3,830 | −203 | 352 | 13,06,776 |
| **INDUS INUNDATION CANALS.** | | | | | |
| Imperial ... ... ... ... | 14,75,475 | 3,45,186 | 2,32,779 | 2,44,755 | 22,98,195 |
| **Total** ... Imperial ... | 10,87,88,346 | 13,63,373 | 9,64,831 | 12,66,621 | 11,23,83,171 |
| ... Contributions ... | 1,52,45,774 | 3,422 | 7,153 | 649 | 1,52,57,000 |

# APPENDIX 2.

## MAJOR IRRIGATION WORKS.

### GROSS REVENUE REALIZATIONS (DIRECT AND INDIRECT).

| Particulars. | Collections. | | | | |
|---|---|---|---|---|---|
| | Average of the triennial period ending March 1905. | For the year 1905-06. | For the year 1906-07. | For the year 1907-08. | Average of the triennial period ending March 1908. |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Rs | Rs. | Rs. | Rs. | Rs. |
| **WESTERN JUMNA CANAL (IMPERIAL).** | | | | | |
| Direct ... ... ... ... | 24,89,633 | 27,46 173 | 30,95,302 | 30,61,446 | 29,67,670 |
| **PATIALA STATE (CONTRIBUTIONS).** | | | | | |
| Direct ... ... ... ... | 1,89,391 | 2,04,335 | 2,19,869 | 2,89,573 | 2,37,926 |
| **SIRHIND CANAL (IMPERIAL).** | | | | | |
| Direct ... ... ... ... | 27,35,527 | 27 05,077 | 32,19,025 | 31,01,082 | 30,08,395 |
| **PATIALA, NABHA AND JIND STATES.** | | | | | |
| Direct ... ... ... ... | 12,83,069 | 14,66 616 | 19,82,625 | 19,57,188 | 18,02.143 |
| **UPPER BARI DOAB CANAL.** | | | | | |
| Direct ... ... ... ... | 33,02,281 | 31 74 923 | 35,62,305 | 33,8 ,416 | 33,72,882 |
| Indirect ... ... ... ... | 2,49,896 | 2,99,249 | 3,00,639 | 3,13,004 | 3,04 297 |
| Total ... | 35 52 177 | 34 74.172 | 3 ,62 944 | 36,94,420 | 36,77,179 |
| **LOWER CHENAB CANAL.** | | | | | |
| Direct ... ... ... ... | 69.14,578 | 65 92 091 | 76 66.170 | 60,58,939 | 67,72,404 |
| Indirect ... ... ... ... | 11,86,207 | 7 78,883 | 10 95 882 | 10,37, 33 | 9, 0,666 |
| Total ... | 81,00,785 | 73,70,977 | 87,62 061 | 70,96, 72 | 77,43,070 |
| **LOWER JHELUM CANAL.** | | | | | |
| Direct ... ... ... ... | 2 60.272 | 7.78,822 | 13,56,605 | 13,62,263 | 11,65,897 |
| Indirect ... ... ... ... | —11 345 | 81,613 | 2,69,721 | 3,19,280 | 2,23 538 |
| Total ... | 2,48,927 | 8,60,435 | 16,26,326 | 16,81,543 | 13 89,435 |
| **UPPER SUTLEJ INUNDATION CANALS.** | | | | | |
| Direct ... ... ... ... | 3,47.023 | 3 10,718 | 4.19 020 | 4,00 517 | 3,76 752 |
| Indirect ... ... ... ... | 1,87.133 | 1,1 ,210 | 2,51.735 | 2,38 ,76 | 2,00,340 |
| Total ... | 5,34,156 | 4,21,928 | 6,70 755 | 6,38 593 | 5,77.092 |
| **SIDHNAI CANAL.** | | | | | |
| Direct ... ... ... ... | 2 90.642 | 2,46,560 | 3,86 076 | 4,26 5 8 | 3,53,065 |
| Indirect ... ... ... ... | 52 595 | 74 7 5 | 1,15.909 | 1,43 283 | 1, ,322 |
| Total ... | 3,43,237 | 3.21,335 | 5,01,985 | 5,69,841 | 4 64,387 |
| **INDUS INUNDATION CANALS.** | | | | | |
| Direct ... ... ... ... | 1.17,110 | 1,62,935 | 1,62,437 | 1,20,213 | 1,4 ,528 |
| Indirect ... ... ... ... | 2,68 797 | 2 73,536 | 2,74,872 | 3, 6,389 | 2, 8 266 |
| Total ... | 3,85,907 | 4,36.471 | 4,37,309 | 4,36,602 | 4,36,794 |
| Grand Total (Imperial) { Direct ... | 1,64,57,071 | 1 67,17,302 | 1,98,67 039 | 1,79,12,434 | 1, 1,65 592 |
| Grand Total (Imperial) { Indirect ... | 19,33 2 3 | 10, 9,266 | 2, 08, ,58 | 23,67,265 | 20,98,430 |
| Native States ... Direct ... | 14,72 460 | 16,70 951 | 22,02,494 | 22,46,761 | 20,40,069 |

# APPENDIX 3.

## MAJOR IRRIGATION WORKS.

### COST OF WORKING EXPENSES (DIRECT AND INDIRECT).

| PARTICULARS. | EXPENDITURE. | | | | |
|---|---|---|---|---|---|
| | Average of the triennial period ending March 1905. | *During the year* | | | Average of the triennial period ending March 1908. |
| | | 1905-06. | 1906-07. | 1907-08. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Rs. | Rs. | Rs. | Rs. | Rs. |
| **WESTERN JUMNA CANAL (IMPERIAL).** | | | | | |
| DIRECT. | | | | | |
| Extensions and Improvements... ... | 61,487 | 1,36,929 | 1,56,680 | 1,07,833 | 1,33,814 |
| Maintenance and Repairs ... ... | 3,65,475 | 4,34,869 | 4,10,793 | 4,15,517 | 4,20 393 |
| Other heads ... ... ... | 4,27,045 | 4,48,152 | 4,53 937 | 4 57,123 | 4 53,071 |
| Total Direct ... | 8,54,007 | 10,19 950 | 10,21 410 | 9,80,473 | 10,07,278 |
| Indirect charges ... | 59 054 | 62,360 | 61,566 | 62,110 | 62 012 |
| Total Working Expenses ... | 9,13,061 | 10,82,310 | 10 82,976 | 10,42,583 | 10,69,290 |
| Working Expenses, per acre ... | 1'47 | 1'36 | 1'39 | 1'52 | 1'42 |
| **PATIALA STATE, SIRSA BRANCH.** | | | | | |
| DIRECT. | | | | | |
| Extensions and Improvements... ... | 7,204 | 60,249 | 22,299 | 27,551 | 36,699 |
| Maintenance and Repairs ... ... | 30,511 | 32,068 | 32,824 | 42,259 | 35,717 |
| Other heads ... ... ... | 34,709 | 47 065 | 34,278 | 44,155 | 41,833 |
| Total Working Expenses ... | 72,424 | 1,39,382 | 89,401 | 1,13,965 | 1,14 249 |
| Working Expenses, per acre ... | 1'35 | 2'31 | 1'19 | 1'67 | 1'68 |
| **SIRHIND CANAL (IMPERIAL).** | | | | | |
| DIRECT. | | | | | |
| Extensions and Improvements... ... | 56,721 | 71,810 | 1,85,058 | 1,03,347 | 1,20,072 |
| Maintenance and Repairs ... ... | 3,82,561 | 3,52,807 | 3,57,980 | 3 28,033 | 3,46,273 |
| Other heads ... ... ... | 4,27,004 | 4,42,460 | 4 90,324 | 4,84,537 | 4,72,440 |
| Total Direct ... | 8,66,286 | 8,67,077 | 10,33,362 | 9,15 917 | 9 38,785 |
| Indirect charges ... | 58 233 | 61,150 | 66,825 | 67 726 | 65,234 |
| Total Working Expenses ... | 9,24,519 | 9,28,227 | 11,00,187 | 9,83,643 | 10,04,019 |
| Working Expenses, per acre ... | 1'20 | 1'22 | 1'52 | 1'25 | 1'33 |
| **PATIALA, NABHA AND JIND STATES.** | | | | | |
| DIRECT. | | | | | |
| Total Working Expenses ... | 5,24,790 | 6,34,653 | 6,19,962 | 7,18,008 | 6,57,541 |
| Working Expenses, per acre ... | 1'57 | 1'49 | 1'31 | 1'79 | 1'52 |
| **UPPER BARI DOAB CANAL.** | | | | | |
| DIRECT. | | | | | |
| Extensions and Improvements... ... | 73,051 | 86,278 | 90,108 | 1,69,082 | 1,15,156 |
| Maintenance and Repairs ... ... | 5,21,844 | 5,83,559 | 5,93,595 | 7,62,468 | 6,46,541 |
| Other heads ... ... ... | 4,25,161 | 4,83,389 | 4,97,224 | 5,49,393 | 5,10,002 |
| Total Direct ... | 10,20,056 | 11,53,226 | 11,80,927 | 14,80,943 | 12,71,699 |
| Indirect charges ... | 58,227 | 64,488 | 65,516 | 70 279 | 67,094 |
| Total Working Expenses ... | 10,78,283 | 12,17,714 | 12,47,443 | 15,51,222 | 13,38,793 |
| Working Expenses, per acre ... | 1'16 | 1'07 | 1'20 | 1'71 | 1'31 |

# APPENDIX 3—*concluded.*

| Particulars. | Expenditure. | | | | |
|---|---|---|---|---|---|
| | Average of the triennial period ending March 1905. | *During the year* | | | Average of the triennial period ending March 1908. |
| | | 1905-06. | 1906-07. | 1907-08. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Rs. | Rs. | Rs. | Rs. | Rs. |
| **LOWER CHENAB CANAL.** | | | | | |
| DIRECT. | | | | | |
| Extensions and Improvements ... ... | 1,80,513 | 1,86,344 | 2,23,459 | 2,21,174 | 2,10,325 |
| Maintenance and Repairs ... ... | 5,61,011 | 6,38,125 | 6,24,628 | 6,91,791 | 6,51,515 |
| Other heads ... ... | 8,15,355 | 9,08,165 | 9,82,245 | 9,39,958 | 9,43,456 |
| Total Direct ... | 15,56,878 | 17,32,634 | 18,30,332 | 18,52,923 | 18,05,296 |
| Indirect charges ... ... ... | 1,11,742 | 1,23,843 | 1,31,141 | 1,27,647 | 1,27,544 |
| Total Working Expenses ... | 16,68,620 | 18,56,477 | 19,61,473 | 19,80,570 | 19,32,840 |
| Working Expenses, per acre ... | 0·87 | 1·03 | 1·25 | 1·16 | 1·14 |
| **LOWER JHELUM CANAL.** | | | | | |
| DIRECT. | | | | | |
| Extenisons and Improvements ... ... | 13,536 | 11,844 | 52,475 | 50,067 | 6,38,129 |
| Maintenance and Repairs ... ... | 1,58,970 | 3,82,202 | 3,83,154 | 3,30,230 | 3,65,195 |
| Other heads ... ... ... | 1,26,139 | 2,67,086 | 3,09,367 | 3,42,851 | 3,06,435 |
| Total Direct ... | 2,98,645 | 6,61,132 | 7,44,996 | 7,23,148 | 7,09,759 |
| Indirect charges ... ... ... | 17,021 | 37,039 | 42,799 | 47,373 | 42,400 |
| Total Working Expenses ... | 3,15,666 | 6,98,161 | 7,87,795 | 7,70,521 | 7,52,159 |
| Wroking Expenses, per acre ... | 1·26 | 1·56 | 1·81 | 1·42 | 1·58 |
| **UPPER SUTLEJ INUNDATION CANALS.** | | | | | |
| DIRECT. | | | | | |
| Extensions and Improvements ... ... | 35,577 | 23,618 | 14,241 | 8,197 | 15,385 |
| Maintenance and Repairs ... ... | 1,99,381 | 1,74,933 | 1,64,700 | 1,44,210 | 1,61,315 |
| Other heads ... ... ... | 1,16,082 | 1,22,568 | 1,23,682 | 1,30,592 | 1,25,614 |
| Total Direct ... | 3,51,040 | 3,21,119 | 3,02,713 | 2,83,109 | 3,02,314 |
| Indirect charges ... ... ... | 16,339 | 16,102 | 16,581 | 18,033 | 16,905 |
| Total Working Expenses ... | 3,67,409 | 3,37,221 | 3,19,294 | 3,01,142 | 3,19,219 |
| Working Expenses, per acre ... | 1·52 | 0·91 | 0·83 | 1·55 | 1·01 |
| **SIDHNAI CANAL.** | | | | | |
| DIRECT. | | | | | |
| Extensions and Improvements ... ... | 0,522 | 5,312 | 7,298 | 7,603 | 6,738 |
| Maintenance and Repairs ... ... | 68,306 | 66,400 | 65,759 | 82,461 | 71,540 |
| Other heads ... ... ... | 61,199 | 59,277 | 66,006 | 69,608 | 64,963 |
| Total Direct ... | 1,39,027 | 1,30,989 | 1,39,063 | 1,59,672 | 1,43,241 |
| Indirect charges ... ... ... | 8,381 | 8,114 | 9,581 | 9,604 | 9,100 |
| Total Working Expenses ... | 1,47,408 | 1,39,103 | 1,48,644 | 1,69,276 | 1,52,341 |
| Working Expenses, per acre ... | 1·06 | 0·85 | 0·65 | 1·91 | 0·96 |
| **INDUS INUNDATION CANALS.** | | | | | |
| DIRECT. | | | | | |
| Extensions and Improvements ... ... | 89,058 | 41,541 | 37,847 | 62,584 | 47,324 |
| Maintenance and Repairs ... ... | 1,14,231 | 2,13,429 | 1,90,481 | 2,25,434 | 2,12,781 |
| Other heads ... ... ... | 62,652 | 66,064 | 81,651 | 81,230 | 76,315 |
| Total Direct ... | 2,65,941 | 3,21,034 | 3,18,979 | 3,69,248 | 3,36,420 |
| Indirect charges ... ... ... | 9,922 | 10,019 | 11,306 | 11,202 | 10,842 |
| Total Working Expenses ... | 2,75,863 | 3,31,053 | 3,30,285 | 3,80,450 | 3,47,262 |
| Working Expenses, per acre ... | 1·40 | 1·59 | 1·63 | 2·84 | 1·92 |
| ***Grand Total.*** | | | | | |
| Working Expenses { Imperial ... | 56,90,829 | 65,90,266 | 69,78,097 | 71,79,407 | 69,15,923 |
| Working Expenses { Native States ... | 5,97,214 | 7,74,035 | 7,09,363 | 8,31,973 | 7,71 |

# APPENDIX 4.

## MAJOR IRRIGATION WORKS.

### NET REVENUE REALIZED (EXCLUDING INTEREST CHARGES).

| Canals. | Net Revenue. | | | | |
|---|---|---|---|---|---|
| | Average of the triennial period ending March 1905. | For the year | | | Average of the triennial period ending March 1908. |
| | | 1905-06. | 1906-07. | 1907-08. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Rs. | Rs. | Rs. | Re. | Rs. |
| **WESTERN JUMNA CANAL.** | | | | | |
| Imperial ... ... ... ... | 15,76,577 | 16,63,863 | 20,12,416 | 20,18,863 | 18,98,381 |
| Percentage on Capital ... ... | 9·13 | 9·62 | 11·61 | 11·63 | 10·94 |
| Patiala State ... ... ... | 1,16,967 | 64,953 | 1,30,468 | 1,75,608 | 1,23,676 |
| Percentage on Capital ... ... | 10·24 | 5·68 | 11·39 | 15·32 | 10·78 |
| **SIRHIND CANAL.** | | | | | |
| Imperial ... ... ... ... | 18,11,008 | 17,76,850 | 21,18,838 | 21,17,439 | 20,04,376 |
| Percentage on Capital ... ... | 7·32 | 7·15 | 8·50 | 8·47 | 8·02 |
| Patiala, Nabha and Jind States ... ... | 7,58,280 | 8,31,963 | 13,62,663 | 12,39,180 | 11,44,602 |
| Percentage on Capital ... ... | 5·38 | 5·90 | 9·66 | 8·78 | 8·11 |
| **UPPER BARI DOAB CANAL.** | | | | | |
| Imperial ... ... ... ... | 24,73,894 | 22,56,458 | 26,15,501 | 21,43,198 | 23,38,386 |
| Percentage on Capital ... ... | 12·48 | 11·29 | 13·04 | 10·40 | 11·34 |
| **LOWER CHENAB CANAL.** | | | | | |
| Imperial ... ... ... ... | 64,32,164 | 55,14,500 | 68,00,588 | 51,15,602 | 58,10,230 |
| Percentage on Capital ... ... | 23·08 | 19·55 | 24·09 | 18·15 | 20·62 |
| **LOWER JHELUM CANAL.** | | | | | |
| Imperial ... ... ... ... | -66,739 | 1,62,274 | 8,38,531 | 9,11,022 | 6,37,276 |
| Percentage on Capital ... ... | -0·55 | 1·09 | 5·43 | 5·74 | 4·01 |
| **UPPER SUTLEJ INUNDATION CANALS.** | | | | | |
| Imperial ... ... ... ... | 1,66,747 | 84,707 | 3,51,461 | 3,37,451 | 2,57,873 |
| Percentage on Capital ... ... | 9·72 | 4·87 | 20·07 | 19·25 | 14·71 |
| **SIDHNAI CANAL.** | | | | | |
| Imperial ... ... ... ... | 1,95,828 | 1,82,232 | 3,53,341 | 4,00,565 | 3,12,046 |
| Percentage on Capital ... ... | 15·03 | 13·95 | 27·05 | 30·65 | 20·88 |
| **INDUS INUNDATION CANALS.** | | | | | |
| Imperial ... ... ... ... | 1,10,043 | 1,05,418 | 1,07,024 | 56,152 | 89,531 |
| Percentage on Capital ... ... | 10·86 | 5·79 | 5·21 | 2·44 | 3·89 |
| **Grand Total** — Imperial ... ... | 1,26,99,522 | 1,17,46,302 | 1,51,97,700 | 1,31,00,292 | 1,33,48,099 |
| Percentage on Capital... | 11·91 | 10·66 | 13·68 | 11·16 | 11·88 |
| Native States... ... | 8,75,247 | 8,96,916 | 14,93,131 | 14,14,788 | 12,68,279 |
| Percentage on Capital... | 5·74 | 5·88 | 9·78 | 9·27 | 8·31 |

# APPENDIX 5.

## MAJOR IRRIGATION WORKS.

### NET REVENUE REALIZED (AFTER PAYING INTEREST CHARGES).

| Canals. | Net Revenue. | | | | |
|---|---|---|---|---|---|
| | Average of the triennial period ending March 1905. | *For the year.* | | | Average of the triennial period ending March 1908. |
| | | 1905-06. | 1906-07. | 1907-08. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| **WESTERN JUMNA CANAL.** | Rs. | Rs. | Rs. | Rs. | Rs. |
| Imperial ... ... ... | 9,18,682 | 10,04,951 | 14,44,778 | 14,54,399 | 13,01,376 |
| Percentage on Capital ... ... | 5·32 | 5·81 | 8·33 | 8·38 | 7·50 |
| **SIRHIND CANAL.** | | | | | |
| Imperial ... ... ... ... | 8,71,890 | 8,32,305 | 13,04,769 | 13,06,833 | 11,47,969 |
| Percentage on Capital ... ... | 3·11 | 3·35 | 5·24 | 5·23 | 4·69 |
| **UPPER BARI DOAB CANAL.** | | | | | |
| Imperial ... ... ... ... | 17,21,682 | 14,92,779 | 19,51,847 | 14,73,615 | 16,39,414 |
| Percentage on Capital ... ... | 8·74 | 7·47 | 9·73 | 7·15 | 7·95 |
| **LOWER CHENAB CANAL.** | | | | | |
| Imperial ... ... ... ... | 53,60,729 | 44,22,875 | 58,54,262 | 41,76,695 | 48,17,944 |
| Percentage on Capital ... ... | 19·24 | 15·67 | 20·74 | 14·82 | 17·09 |
| **LOWER JHELUM CANAL.** | | | | | |
| Imperial ... ... ... ... | −5,23,340 | −381,577 | 3,27,822 | 3,88,691 | 1,11,645 |
| Percentage on Capital ... ... | −4·05 | −2·55 | 2·12 | 2·45 | 0·79 |
| **UPPER SUTLEJ INUNDATION CANALS.** | | | | | |
| Imperial ... ... ... ... | 1,03,112 | 19,860 | 2,94,874 | 2,81,052 | 1,98,595 |
| Percentage on Capital ... ... | 5·43 | 1·14 | 16·84 | 16·04 | 11·33 |
| **SIDHNAI CANAL.** | | | | | |
| Imperial ... ... ... ... | 1,45,765 | 1,31,799 | 3,09,809 | 3,57,347 | 2,66,318 |
| Percentage on Capital ... ... | 11·22 | 10·08 | 23·71 | 27·35 | 20·38 |
| **INDUS INUNDATION CANALS.** | Average of two years. | | | | |
| Imperial ... ... ... ... | 87,704 | 43,525 | 42,184 | −16,183 | 23,182 |
| Percentage on Capital ... ... | 7·49 | 2·39 | 2·05 | − 0·70 | 1·01 |
| **Total** ... { Imperial ... ... | 85,98,520 | 75,66,517 | 1,15,30,345 | 94,22,469 | 95,06,443 |
| { Percentage on Capital ... | 8·14 | 6·87 | 10·35 | 8·38 | 8·46 |

# APPENDIX 6.

## MAJOR IRRIGATION WORKS.

### BALANCES OF OCCUPIER'S AND OWNER'S RATES OUTSTANDING AT THE END OF EACH YEAR.

| Canals. | 1905-06. | 1906-07. | 1907-08. |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| **WESTERN JUMNA CANAL.** | Rs. | Rs. | Rs. |
| Occupier's rates ... ... ... ... ... | 6,141 | 4,808 | 12,381 |
| Owner's rates ... ... ... ... ... | 3,554 | 623 | 5,081 |
| **SIRHIND CANAL.** | | | |
| Occupier's rates ... ... ... ... ... | 17,564 | 1,931 | 9,464 |
| **UPPER BARI DOAB CANAL.** | | | |
| Occupier's rates ... ... ... ... ... | 10,745 | 27,709 | 24,557 |
| **LOWER CHENAB CANAL.** | | | |
| Occupier's rates ... ... ... ... ... | 66,279 | 24,207 | 1,503 |
| Owner's rates ... ... ... ... ... ... | 231 | 773 | 786 |
| **LOWER JHELUM CANAL.** | | | |
| Occupier's rates ... ... ... ... ... | 1,51,961 | 87,888 | 21,013 |
| **UPPER SUTLEJ INUNDATION CANALS.** | | | |
| Occupier's rates ... ... ... ... ... | 13,517 | 5,475 | 3,613 |
| **SIDHNAI CANAL.** | | | |
| Water-rates ... ... ... ... ... ... | 2,469 | 3,467 | 120 |
| **INDUS INUNDATION CANALS.** | | | |
| Occupier's rates ... ... ... ... ... | 13,719 | 13,724 | 7,495 |
| **Total** ... { Occupier's rates ... ... ... | 2,82,395 | 1,69,209 | 80,146 |
| { Owner's rates ... ... ... | 3,785 | 1,396 | 5,867 |

# APPENDIX 7.

# MAJOR IRRIGATION WORKS.

## REVENUE ASSESSMENTS (DIRECT AND INDIRECT).

| Particulars. | Assessments. | | | | |
|---|---|---|---|---|---|
| | Average of the triennial period ending March 1905. | For the year | | | Average of the triennial period ending March 1908. |
| | | 1905-06. | 1906-07. | 1907-08. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Rs. | Rs. | Rs. | Rs. | Rs. |
| **WESTERN JUMNA CANAL (IMPERIAL).** | | | | | |
| Direct. | | | | | |
| Occupier's rates ... ... ... | 16,63,455 | 19,19,712 | 19,78,228 | 18,66,035 | 19,21,325 |
| Owner's rates ... ... ... | 7,45,132 | 8,65,853 | 8,99,914 | 8,33,267 | 8,66,345 |
| Miscellaneous revenue ... ... | 1,20,723 | 1,59,073 | 1,59,993 | 1,29,863 | 1,49,643 |
| Total Assessments ... | 25,29,310 | 29,44,638 | 30,38,135 | 28,29,165 | 29,37,313 |
| **PATIALA STATE, SIRSA BRANCH.** | | | | | |
| Occupier's rates ... ... ... | 1,89,657 | 2,13,596 | 2,60,043 | 2,44,220 | 2,39,286 |
| Miscellaneous revenue ... ... | 5,828 | −10,317 | 2,125 | 3,346 | −1,615 |
| Total Assessments ... ... | 1,95,485 | 2,03,279 | 2,62,168 | 2,47,566 | 2,37,671 |
| **SIRHIND CANAL (IMPERIAL).** | | | | | |
| Direct. | | | | | |
| Occupier's rates ... ... ... | 24,79,089 | 29,99,934 | 29,09,338 | 26,91,845 | 28,67,039 |
| Miscellaneous revenue ... ... | 1,40,039 | 1,38,874 | 2,02,526 | 2,72,740 | 2,04,713 |
| Total Assessments ... ... | 26,19,128 | 31,38,808 | 31,11,864 | 29,64,585 | 30,71,752 |
| **PATIALA, NABHA AND JIND STATES.** | | | | | |
| Occupier's rates ... ... ... | 12,04,018 | 18,14,687 | 20,50,013 | 17,21,595 | 18,62,098 |
| Miscellaneous revenue ... ... | 50,441 | 62,807 | 82,043 | 69,718 | 71,523 |
| Total Assessments ... ... | 12,54,459 | 18,77,494 | 21,32,056 | 17,91,313 | 19,33,621 |
| **UPPER BARI DOAB CANAL.** | | | | | |
| Direct. | | | | | |
| Occupier's rates ... ... ... | 31,29,576 | 31,31,844 | 30,00,948 | 30,51,008 | 30,61,267 |
| Miscellaneous Revenue ... ... | 2,02,900 | 2,64,623 | 2,93,234 | 2,72,183 | 2,76,680 |
| Total ... | 33,32,476 | 33,96,467 | 32,94,182 | 33,23,191 | 33,37,946 |
| Indirect ... ... ... | 2,09,652 | 2,17,968 | 2,20,913 | 2,26,014 | 2,21,632 |
| Total Assessments ... ... | 35,42,128 | 36,14,435 | 35,15,095 | 35,49,205 | 35,59,578 |
| **LOWER CHENAB CANAL.** | | | | | |
| Direct. | | | | | |
| Occupier's rates ... ... ... | 68,92,487 | 65,17,896 | 57,40,237 | 63,97,903 | 62,18,679 |
| Owner's rates ... ... ... | 3,19,371 | 3,69,355 | 2,83,897 | 4,77,701 | 3,76,984 |
| Miscellaneous revenue ... ... | 1,05,066 | 67,170 | 45,982 | 50,968 | 54,706 |
| Total ... | 73,16,924 | 69,54,421 | 60,70,116 | 69,26,572 | 66,50,369 |
| Indirect ... ... ... | 11,68,772 | 12,16,508 | 10,52,898 | 11,88,450 | 11,52,619 |
| Total Assessments ... ... | 84,85,696 | 81,70,929 | 71,23,014 | 81,15,022 | 78,02,988 |

# APPENDIX 7—(*concluded*).

| Particulars. | Assessments. | | | | |
|---|---|---|---|---|---|
| | Average of the triennial period ending March 1905. | For the year | | | Avarage of the triennial period ending March 1908. |
| | | 1905-06. | 1906-07. | 1907-08 | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Rs. | Rs. | Rs. | Rs. | Rs. |
| **LOWER JHELUM CANAL.** | | | | | |
| DIRECT. | | | | | |
| Occupier's rates ... ... ... | 5,39,771 | 10,88,117 | 12,42,024 | 16,72,857 | 13,34,333 |
| Miscellaneous revenue ... ... | 9,963 | 16,590 | 24,429 | 27,156 | 22,725 |
| Total ... | 5,49,734 | 11,04,707 | 12,66,453 | 17,00,013 | 13,57,058 |
| Indirect ... ... ... ... | —11,345 | 81,613 | 2,69,721 | 3,19,280 | 2,23,538 |
| Total Assessments ... | 5,38,389 | 11,86,320 | 15,36,174 | 20,19,293 | 15,80,596 |
| **UPPER SUTLEJ INUNDATION CANALS.** | | | | | |
| DIRECT. | | | | | |
| Occupier's rates ... ... ... | 3,31,227 | 4,06,727 | 4,81 070 | 2,30,762 | 3,72,686 |
| Miscellaneous revenue ... ... | 9,389 | 5,789 | 7,847 | 9,025 | 7,554 |
| Total ... | 3,40,616 | 4,12,016 | 4,88,917 | 2,39,787 | 3,80,240 |
| Indirect ... ... ... ... | 1,82,918 | 1,99,918 | 2,57,532 | 1.62,939 | 2,06,796 |
| Total Assessments ... | 5 23,534 | 6,11,934 | 7,46,349 | 4,02,726 | 5,87,036 |
| **SIDHNAI CANAL.** | | | | | |
| DIRECT. | | | | | |
| Water-rates ... ... ... | 3,06,514 | 3,04,586 | 4,34,650 | 2,11,865 | 3,17,033 |
| Miscellaneous revenue ... ... | 4,480 | 5,440 | 3,727 | 3,421 | 4,196 |
| Total ... | 3 10,994 | 3,10,026 | 4,38,377 | 2 15,286 | 3,21,229 |
| Indirect ... ... ... ... | 67,731 | 1,18,888 | 1,44,672 | 1,43,283 | 1,35,614 |
| Total Assessments ... | 3,78,725 | 4,28,914 | 5,83,049 | 3,58,569 | 4,56,844 |
| **INDUS INUNDATION CANALS.** | | | | | |
| DIRECT. | | | | | |
| Occupier's rates ... ... ... | 90,162 | 1,29,510 | 1,30,483 | 84,030 | 1,14,674 |
| Water-rate and value of Government share of produce. | 34 385 | 54,000 | 38,203 | 6,473 | 32,892 |
| Miscellaneous revenue ... ... | 4,248 | 3,462 | 8,957 | 9 984 | 7,468 |
| Total ... | 1,28,795 | 1,36,972 | 1,77,643 | 1,00,487 | 1,55,034 |
| Indirect ... ... ... ... | 2,68,797 | 2,73,536 | 2,74,872 | 3,16,389 | 2,88,266 |
| Total Assessments ... | 3,97,592 | 4,60,508 | 4,52,515 | 4,16,876 | 4,43,300 |
| TOTAL (IMPERIAL) Occupier's rates ... | 1,54,66,666 | 1,65,51,826 | 1,59 55,181 | 1,62,12,778 | 1,62,39,928 |
| TOTAL (IMPERIAL) Owner's rates ... | 10,64,503 | 12,35,208 | 11,83,811 | 12,10,908 | 12,43,329 |
| TOTAL (IMPERIAL) Miscellaneous revenue | 5,96,808 | 6,61,021 | 7,46,495 | 7,75,340 | 7,27,685 |
| TOTAL (IMPERIAL) Indirect revenue ... | 18,86,525 | 21,08,431 | 22,20,608 | 23,56,355 | 22,28,465 |
| GRAND TOTAL (IMPERIAL) ... ... | 1,90,14,502 | 2,05,56,486 | 2,01,06,295 | 2,06,55,441 | 2 04,39,407 |
| TOTAL (NATIVE STATES). Occupier's rates ... | 13,93,675 | 20,28,283 | 23,10,056 | 19,65,815 | 21,01,384 |
| TOTAL (NATIVE STATES). Miscellaneous revenue | 56,269 | 52,490 | 84,168 | 73,064 | 69 908 |
| GRAND TOTAL (NATIVE STATES) ... | 14,49,944 | 20,80,773 | 23,94,224 | 20,38,879 | 21,71,292 |

# APPENDIX 8.

## MAJOR IRRIGATION WORKS.

### AVERAGE OCCUPIER'S AND OWNER'S RATES PER ACRE.

| Particulars. | Average rate per acre. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Average of the triennial period ending March 1905.* | | *For the year* | | | | | | *Average of the triennial period ending March 1908.* | |
| | | | 1905-06. | | 1906-07. | | 1907-08. | | | |
| | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| **WESTERN JUMNA CANAL (IMPERIAL).** | | | | | | | | | | |
| Occupier's rates ... ... | 2·80 | 2·40 | 2·43 | 2·39 | 2·71 | 2·37 | 2·97 | 2·40 | 2·70 | 2·39 |
| Owner's rates ... ... | 1·20 | 1·10 | 1·09 | 1·08 | 1·23 | 1·08 | 1·34 | 1·04 | 1·22 | 1·07 |
| **PATIALA STATE, SIRSA BRANCH.** | | | | | | | | | | |
| Occupier's rates ... ... | 3·50 | 3·50 | 3·58 | 3·50 | 3·38 | 3·53 | 3·59 | 3·54 | 3·52 | 3·52 |
| **SIRHIND CANAL (IMPERIAL).** | | | | | | | | | | |
| Occupier's rates ... ... | 3·24 | 3·21 | 3·47 | 4·24 | 3·73 | 4·18 | 3·62 | 3·32 | 3·61 | 3·88 |
| **PATIALA, NABHA AND JIND STATES.** | | | | | | | | | | |
| Occupier's rates ... ... | 3·66 | 3·57 | 3·75 | 4·54 | 3·95 | 4·56 | 4·08 | 4·40 | 3·93 | 4·50 |
| **UPPER BARI DOAB CANAL.** | | | | | | | | | | |
| Occupier's rates ... ... | 3·68 | 3·07 | 2·57 | 2·94 | 3·50 | 2·48 | 3·62 | 3·12 | 3·19 | 2·85 |
| **LOWER CHENAB CANAL.** | | | | | | | | | | |
| Occupier's rates ... ... | 3·52 | 3·61 | 3·35 | 3·70 | 3·57 | 3·70 | 3·77 | 3·74 | 3·58 | 3·71 |
| Owner's rates ... ... | 0·14 | 0·18 | 0·18 | 0·21 | 0·19 | 0·18 | 0·29 | 0·28 | 0·22 | 0·22 |
| **LOWER JHELUM CANAL.** | | | | | | | | | | |
| Occupier's rates ... ... | 1·57 | 2·33 | 2·45 | 2·40 | 2·04 | 3·67 | 3·18 | 3·04 | 2·50 | 2·95 |
| **UPPER SUTLEJ INUNDATION CANALS.** | | | | | | | | | | |
| Occupier's rates ... ... | 1·61 | 0·98 | 1·18 | 1·00 | 1·75 | 0·99 | 1·42 | 0·96 | 1·42 | 0·98 |
| **SIDHNAI CANAL.** | | | | | | | | | | |
| Water-rates ... ... | 2·72 | 1·57 | 2·53 | 1·61 | 2·65 | 1·62 | 2·79 | 1·39 | 2·66 | 1·60 |
| **INDUS INUNDATION CANALS.** | | | | | | | | | | |
| Occupier's rates ... ... | 0·54 | 0·32 | 0·77 | 0·38 | 0·79 | 0·41 | 0·78 | 0·49 | 0·78 | 0·42 |

# APPENDIX 9.

## MAJOR IRRIGATION WORKS.

## WESTERN JUMNA CANAL.

STATEMENT SHOWING AREAS ON WHICH OCCUPIER'S RATES WERE REMITTED.

| Cause of remission. | 1905-06. | | | | | | 1906-07. | | | | | | 1907-08. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | |
| | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| OCCUPIER'S RATES. | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | |
| 1. Wrong measurement ... ... | ... | 139 | ... | ... | 743 | ... | ... | 515 | ... | ... | 239 | ... | ... | 17 | ... | ... | 6 | ... |
| 2. Escape irrigation ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 13 | ... | ... | ... | ... |
| 3. Under Tenancy Rules. ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 4. Short supply ... ... ... | ... | 13,054 | ... | ... | 426 | ... | ... | 419 | ... | ... | 106 | ... | ... | 14,267 | ... | ... | 3,664 | ... |
| 5. Flooding ... ... ... ... | ... | 222 | ... | ... | 99 | ... | ... | 591 | ... | ... | 121 | ... | ... | 94 | ... | ... | 48 | ... |
| 6. Hail or other calamities ... ... | ... | ... | ... | ... | 285 | ... | ... | 17 | ... | ... | 557 | ... | ... | 27 | ... | ... | 398 | ... |
| 7. Locusts ... ... ... ... | ... | 23 | ... | ... | 2 | ... | ... | 150 | ... | ... | 13 | ... | ... | 556 | ... | ... | 676 | ... |
| 8. Other insects or blight ... ... | ... | 10,894 | ... | ... | 3 | ... | ... | 37 | ... | ... | 2 | ... | ... | 29 | ... | ... | ... | ... |
| 9 Special charges ... ... ... | ... | 588 | ... | ... | 349 | ... | ... | 317 | ... | ... | 17 | ... | ... | 337 | ... | ... | 60 | ... |
| 10. Miscellaneous ... ... ... | ... | 8,230 | ... | ... | 1,256 | ... | ... | 1,224 | ... | ... | 477 | ... | ... | 531 | ... | ... | 67 | ... |
| 11. Change of class ... ... ... | ... | 3,956 | ... | ... | 181 | ... | ... | 270 | ... | ... | 52 | ... | ... | 321 | ... | ... | 13 | ... |
| Total ... | 445,476 | 37,146 | 8·34 | 410,949 | 3,344 | 0·81 | 449,430 | 3,540 | 0·79 | 403,328 | 1,584 | 0·39 | 437,274 | 16,192 | 3·70 | 316,081 | 4,932 | 1·56 |

# APPENDIX 9 A.

## MAJOR IRRIGATION WORKS.

## WESTERN JUMNA CANAL.

### STATEMENT SHOWING AREAS ON WHICH OWNER'S RATES WERE REMITTED.

| Cause of remission. | 1905-06. | | | | | | 1906-07. | | | | | | 1907-08. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | |
| | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| OWNER'S RATES. | Acres | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | |
| 1. Wrong measurement | ... | 129 | ... | ... | 718 | ... | ... | 490 | ... | ... | 233 | ... | ... | 17 | ... | ... | ... | ... |
| 2. Escape irrigation | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 15 | ... | ... | ... | ... |
| 3. Under Tenancy Rules | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 4. Short supply | ... | 11,500 | ... | ... | 111 | ... | ... | 266 | ... | ... | 70 | ... | ... | 13,202 | ... | ... | 3,436 | ... |
| 5. Flooding | ... | 205 | ... | ... | 10 | ... | ... | 9 | ... | ... | 5 | ... | ... | ... | ... | ... | 3 | ... |
| 6. Hail or other calamities | ... | ... | ... | ... | 8 | ... | ... | 17 | ... | ... | 14 | ... | ... | ... | ... | ... | ... | ... |
| 7. Locusts | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | ... | ... | 2 | ... | ... | ... | ... |
| 8. Other insects or blight | ... | 9,94 | ... | ... | 3 | ... | ... | 37 | ... | ... | 2 | ... | ... | 29 | ... | ... | ... | ... |
| 9. Special charges | ... | 256 | ... | ... | ... | ... | ... | ... | ... | ... | 12 | ... | ... | 19 | ... | ... | ... | ... |
| 10. Miscellaneous | ... | 8,230 | ... | ... | 1,252 | ... | ... | 1,176 | ... | ... | 390 | ... | ... | 531 | ... | ... | 2 | ... |
| 11. Change of class | ... | 3,956 | ... | ... | 181 | ... | ... | 270 | ... | ... | 52 | ... | ... | 321 | ... | ... | 13 | ... |
| Total | 374,578 | 34,223 | 9·14 | 356,565 | 2,263 | 0·63 | 371,747 | 2,265 | 0·61 | 339,260 | 782 | 0·23 | 355,831 | 14,134 | 3·97 | 262,434 | 3,454 | 1·32 |

# APPENDIX 9 B.

## MAJOR IRRIGATION WORKS.

### SIRHIND CANAL CIRCLE

STATEMENT SHOWING AREAS ON WHICH OCCUPIER'S RATES WERE REMITTED.

| Cause of remission. | 1905-06. | | | | | | 1906-07. | | | | | | 1907-08. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | |
| | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| OCCUPIER'S RATES. | Acres | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | |
| 1. Wrong measurement ... ... | ... | 54 | ... | ... | 2 | ... | ... | 8 | ... | ... | 5 | ... | ... | ... | ... | ... | ... | ... |
| 2. Escape irrigation ... ... | ... | 849 | ... | ... | 712 | ... | ... | 690 | ... | ... | 2,096 | ... | ... | 880 | ... | ... | 184 | ... |
| 3. Under Tenancy Rules ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | ... | ... | ... |
| 4. Short supply ... ... ... | ... | 7 | ... | ... | 2 | ... | .. | 93 | ... | ... | 132 | ... | ... | 141 | ... | ... | 125,645 | ... |
| 5. Flooding ... ... ... | ... | 26 | ... | ... | 63 | ... | ... | 22 | ... | ... | 122 | ... | ... | 459 | ... | ... | ... | ... |
| 6. Hail and other calamities ... ... | ... | 1,059 | ... | ... | 1,148 | ... | ... | 140 | ... | ... | 1,500 | ... | ... | 611 | ... | ... | ... | ... |
| 7. Locusts ... ... ... | ... | ... | ... | ... | 56 | ... | ... | 54 | .. | ... | 36 | ... | ... | 5 | ... | ... | 3?1 | ... |
| 8. Other insects or blight ... ... | ... | 11,880 | ... | ... | 295 | ... | ... | 401 | ... | ... | 171 | ... | ... | 461 | ... | ... | ... | ... |
| 9. Special charges ... ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | ... | ... | ... | ... | ... |
| 10. Miscellaneous ... ... ... | ... | 1,127 | ... | ... | 1,067 | ... | ... | 1,579 | ... | ... | 1,454 | ... | ... | 2,887 | ... | ... | 4,439 | ... |
| 11. Change of class ... ... ... | ... | 204 | ... | ... | 14 | ... | ... | ... | ... | ... | ... | ... | ... | 7 | ... | ... | ... | ... |
| Total ... | 282,862 | 15,206 | 5·38 | 476,146 | 3,359 | 0·71 | 262,861 | 2,987 | 1·14 | 461 558 | 5,515 | 1·19 | 250,791 | 5,451 | 2·17 | 537,510 | 130,589 | 24·30 |

# APPENDIX 9 C.

## MAJOR IRRIGATION WORKS.

### UPPER BARI DOAB CANAL

STATEMENT SHOWING AREAS ON WHICH OCCUPIER'S RATES WERE REMITTED.

| Cause of remission. | 1905-06. | | | | | | 1906-07. | | | | | | 1907-08. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | |
| | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| OCCUPIER'S RATES. | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | |
| 1. Wrong measurement ... | ... | 4 | ... | ... | 2 | ... | ... | 10 | ... | ... | 62 | ... | ... | 3 | ... | ... | 13 | ... |
| 2. Escape irrigation ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 5 | ... | ... | ... | ... |
| 3. Under Tenancy Rules ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 4. Short supply ... | ... | 64 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 3,290 | ... | ... | 11,381 | ... |
| 5. Flooding ... ... | ... | 778 | ... | ... | 25 | ... | ... | 62 | ... | ... | 70,776 | ... | ... | 137 | ... | ... | 87 | ... |
| 6. Hail or other calamities ... | ... | 10 | ... | ... | ... | ... | ... | ... | ... | ... | 26,349 | ... | ... | 18 | ... | ... | 6,770 | ... |
| 7. Locusts ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 560 | ... | ... | 487 | ... | ... | 70 | ... |
| 8. Other insects or blight ... | ... | 1,17,679 | ... | ... | ... | ... | ... | 3,808 | ... | ... | 60 | ... | ... | 8,826 | ... | ... | 2,202 | ... |
| 9. Special charges ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 10. Miscellaneous ... ... | ... | 11,403 | ... | ... | 834 | ... | ... | 2,042 | ... | ... | 31,178 | ... | ... | 688 | ... | ... | 1,079 | .. |
| Total ... | 509,587 | 129,938 | 25·48 | 619,637 | 861 | ·14 | 417,510 | 5,922 | 1·42 | 621,236 | 128,986 | 20·76 | 437,268 | 13,454 | 3·08 | 470,248 | 21,563 | 4·59 |

Note.—The areas remitted after despatch of Demand Statements and those remitted by change of class do not appear in this statement.

# APPENDIX 9 D.

## MAJOR IRRIGATION WORKS.

## LOWER CHENAB CANAL.

STATEMENT SHOWING THE AREAS ON WHICH OCCUPIER'S RATES WERE REMITTED.

| Cause of remission. | 1905-06 | | | | | | 1906-07. | | | | | | 1907-08. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | |
| | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| **OCCUPIER'S RATES.** | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | |
| 1. Wrong measurements ... ... | | 5 | ... | | 9 | ... | | 7 | ... | | ... | ... | | ... | ... | | ... | ... |
| 2. Escape irrigation ... ... ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... |
| 3. Under Tenancy Rules ... ... | | 4,779 | 1·09 | | 13,358 | ·97 | | 9,107 | 1·53 | | 3,172 | ·32 | | 7,251 | 1·26 | | 5,505 | ·49 |
| 4. Short supply ... ... ... | | 2,597 | ·59 | | 136 | ·01 | | 652 | ·11 | | 606 | ·06 | | 6,773 | 1·18 | | 33,429 | 2·95 |
| 5. Flooding ... ... ... | 434,878 | 116 | ·02 | 1,369,741 | 141 | ·01 | 593,258 | 138 | ·02 | 977,595 | ... | ... | 573,665 | ... | ... | 1,131,631 | 59 | ... |
| 6. Hail or other calamities ... ... | | 171,658 | 39·47 | | 941 | ·07 | | 15,054 | 2·54 | | 356,558 | 36·47 | | 7,143 | 1·24 | | 31,666 | 2·80 |
| 7. Locusts ... ... ... | | ... | ... | | 1,224 | ·09 | | 23,761 | 4·00 | | 1,551 | ·16 | | 1,879 | ·32 | | 4,993 | ·44 |
| 8. Other insects or blight ... ... | | 95,380 | 22·16 | | 54 | ... | | 23,904 | 4·01 | | 55,718 | 5·70 | | 6,885 | 1·20 | | 6,298 | ·55 |
| 9. Special charges ... ... ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... |
| 10. Miscellaneous ... ... ... | | 43,245 | 9·94 | | 29,755 | 2·17 | | 47,592 | 8·02 | | 140,479 | 14·37 | | 66,675 | 11·62 | | 171,083 | 15·12 |
| 11. Change of class ... ... ... | | ... | ... | | ... | ... | | 2,533 | ·43 | | ... | ... | | ... | ... | | 46 | ... |
| Total ... ... | 434,878 | 318,780 | 73·30 | 1,369,741 | 45,618 | 3·33 | 593,258 | 122,748 | 20·69 | 977,595 | 558,084 | 57·09 | 573,665 | 96,606 | 16·84 | 1,131,631 | 253,079 | 22·36 |

# APPENDIX 9 E.

## MAJOR IRRIGATION WORKS.

## LOWER CHENAB CANAL.

STATEMENT SHOWING THE AREAS ON WHICH OWNER'S RATES WERE REMITTED.

| Cause of remission. | 1905-06. | | | | | | 1906-07. | | | | | | 1907-08. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | |
| | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| **OWNER'S RATES.** | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | |
| 1. Wrong measurement ... ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... |
| 2. Escape Irrigation ... ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... |
| 3. Under Tenancy Rules ... ... | | 257 | ·30 | | 655 | ·21 | | 511 | ·43 | | 844 | 13·31 | | 811 | ·47 | | 737 | ·21 |
| 4. Short supply ... ... ... | | ... | ... | | 3 | ... | | ... | ... | | ... | ... | | 570 | ·33 | | 3,208 | ·94 |
| 5. Flooding ... ... ... | 85,494 | ... | ... | 303,924 | ... | ... | 118,332 | 138 | ·11 | 183,287 | ... | ... | 171,699 | ... | ... | 340,235 | ... | ... |
| 6. Hail or other calamities ... ... | | ... | ... | | ... | ... | | ... | ... | | 78,639 | 42·90 | | 2,024 | 1·18 | | 8,430 | 2·48 |
| 7. Locusts ... ... ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... |
| 8. Other insects or blight ... ... | | 31,356 | 36·67 | | 17 | ... | | 5,726 | 4·84 | | 1,480 | ·80 | | 23 | ·01 | | 5 | ... |
| 9. Special charges ... ... ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... | | ... | ... |
| 10. Miscellaneous ... ... ... | | 22,192 | 25·95 | | 4,632 | 1·52 | | 11,644 | 9·84 | | 64,799 | 35·35 | | 20,282 | 11·81 | | 55,438 | 16·29 |
| Total ... ... | 85,494 | 53,805 | 62·93 | 303,924 | 5,307 | 1·75 | 118,332 | 18,019 | 15·23 | 183,287 | 145,162 | 79·20 | 171,699 | 23,710 | 13·80 | 340,235 | 67,818 | 19·93 |

# APPENDIX 9 F.

## MAJOR IRRIGATION WORKS.

## LOWER JHELUM CANAL.

### STATEMENT SHOWING AREAS ON WHICH OCCUPIER'S RATES WERE REMITTED.

| Cause of remission. | 1905-06. | | | | | | 1906-07. | | | | | | 1907-08. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | |
| | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| OCCUPIER'S RATES. | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | |
| 1. Wrong measurement ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Escape irrigation ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 3. Under Tenancy Rules ... ... | ... | 27,843 | 27·9 | ... | 98,245 | 28·3 | ... | 63,476 | 30·9 | ... | 834 | 0·3 | ... | 3,404 | 2·3 | ... | 36,246 | 9·1 |
| 4. Short supply ... ... ... | ... | 327 | 0·3 | ... | 1,099 | 0·3 | ... | 389 | 0·2 | ... | 1,232 | 0·5 | ... | 1,382 | 0·9 | ... | 386 | 0·1 |
| 5. Flooding ... ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 6. Hail or other calamities ... ... | ... | 7,227 | 7·2 | ... | 7,428 | 2·1 | ... | 1,521 | 0·7 | ... | 7,014 | 3·4 | ... | 17,245 | 11·7 | ... | 4,826 | 1·2 |
| 7. Locusts ... ... ... | ... | ... | ... | ... | 88 | 0·02 | ... | 50 | 0·02 | ... | 1,509 | 0·6 | ... | 3,900 | 2·6 | ... | ... | ... |
| 8. Other insects or blight ... ... | ... | 71,844 | 72·0 | ... | 544 | 0·15 | ... | 347 | ·17 | ... | 2,424 | 1·05 | ... | 4,124 | 2·8 | ... | 6,023 | 1·5 |
| 9. Special charges (plague) ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 167,328 | 72·8 | ... | ... | ... | ... | ... | ... |
| 10. Miscellaneous ... ... ... | ... | 14,242 | 14·3 | ... | 22,657 | 6·5 | ... | 22,838 | 11·1 | ... | 36,459 | 15·8 | ... | 28,219 | 19·3 | ... | 45,943 | 11·6 |
| Total area remitted ... | 99,697 | 121,483 | 121·7 | 346,962 | 130,061 | 37·4 | 205,483 | 88,621 | 43·13 | 229,600 | 216,840 | 94·4 | 147,115 | 58,274 | 39·6 | 396,414 | 93,424 | 23·6 |

1. Figures in columns 2, 5, 8, 11, 14 and 17 represent the net assessed area.
2. Item 10 "Miscellaneous" is made up of remissions granted on account of—
   (1) Non-germination of seed.
   (2) Excessive cultivation.
   (3) Bad soil.
   (4) Bad and late sowing.
   (5) Rats.
   (6) Nabud.

# APPENDIX 9 G.

## MAJOR IRRIGATION WORKS.

### UPPER SUTLEJ INUNDATION CANALS.

STATEMENT SHOWING AREAS ON WHICH OCCUPIER'S RATES WERE REMITTED.

| Cause of remission. | 1905-06. | | | | | | 1906-07. | | | | | | 1907-08. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | |
| | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| OCCUPIER'S RATES. | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | ... |
| 1. Wrong measurement ... | ... | ... | ... | ... | 0·78 | ... | ... | ... | ... | ... | 5·02 | ... | ... | 0·24 | ... | ... | ... | ... |
| 2. Escape irrigation ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 3. Under Tenancy Rales ... | ... | ... | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 4. Short-supply ... ... | ... | 730·05 | ... | ... | ... | ... | ... | 1,242·22 | ... | ... | ... | ... | ... | 35,472·16 | ... | ... | ... | ... |
| 5. Flooding ... ... | ... | 1,997·28 | ... | ... | ... | ... | ... | 3,599·78 | ... | ... | ... | ... | ... | 78·41 | ... | ... | ... | ... |
| 6. Hail or other calamities ... | ... | 4,329·74 | ... | ... | ... | ... | ... | 16·55 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 7. Locusts ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 8. Other insects or blight ... | ... | 9,775·51 | ... | ... | ... | ... | ... | 9,329·81 | ... | ... | ... | ... | ... | 2,327·31 | ... | ... | ... | ... |
| 9. Damaged by rats ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 10. Seeds not germinating ... | ... | 26·29 | ... | ... | ... | ... | ... | 245·58 | ... | ... | ... | ... | ... | 0·65 | ... | ... | ... | ... |
| 11. Special charges ... ... | ... | ... | ... | ... | 28·22 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 12. Miscellaneous ... ... | ... | 1,905·04 | ... | ... | ... | ... | ... | 1,321·23 | ... | ... | ... | ... | ... | 49·38 | ... | ... | ... | ... |
| Total ... | 195,345 | 18,763·91 | 9·61 | 175,638 | 29·00 | 0·02 | 130,597 | 15,755·17 | 12·06 | 254,220 | 5·02 | ·002 | 97,415 | 37,928·15 | 38·93 | 96,438 | ... | ... |

NOTE—Remissions granted after despatch of Demand Statements and remissions granted by change of class do not appear in this statement.

# APPENDIX 10.

# MAJOR IRRIGATION WORKS.

## AREAS IRRIGATED, SUPPLY AND DUTY.

| Year. | Area matured. | | | Number of days canal was in flow. | | Average supply | | | | Duty on supply utilized. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | *Entering Canal.* | | *Utilized.* | | | |
| | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| **WESTERN JUMNA CANAL.** | Acres. | Acres. | Acres. | No. | No. | Cusecs | Cusecs | Cusecs | Cusecs | Acres. | Acres. |
| 1905-06 ... ... | 445,476 | 410,949 | 856,425 | 174 | 178 | 4,507 | 2 631 | 4·322 | 2,502 | 103 | 164 |
| 1906-07 ... ... | 449,430 | 402,322 | 851,752 | 171 | 159 | 3,900 | 3,616 | 3,640 | 3,426 | 123 | 117 |
| 1907-08 ... ... | 437,274 | 316,081 | 753,355 | 177 | 183 | 4,300 | 2,164 | 3,883 | 2,164 | 112 | 145 |
| **SIRHIND CANAL.** | | | | | | | | | | | |
| Imperial. | | | | | | | | | | | |
| 1905-06 ... ... | 282,862 | 476,146 | 759,008 | 139 | 182 | 3,538 | 2,718 | 3,409 | 2,687 | 83 | 177 |
| 1906-07 ... ... | 262,861 | 461,558 | 724,419 | 137 | 182 | 2,737 | 2,777 | 2,549 | 2,687 | 103 | 172 |
| 1907-08 ... ... | 250,791 | 537,510 | 788,301 | 131 | 183 | 2,770 | 2,499 | 2,519 | 2,494 | 100 | 216 |
| **UPPER BARI DOAB CANAL.** | | | | | | | | | | | |
| 1905-06 ... ... | 509,987 | 619,637 | 1,129,624 | 177 | 155 | 5 543 | 2,678 | 5,428 | 2 644 | 94 | 234 |
| 1906-07 ... ... | 417,510 | 621,236 | 1,038,746 | 178 | 149 | 4,873 | 3,166 | 4,676 | 3,071 | 89 | 202 |
| 1907-08 ... ... | 437,268 | 470,248 | 907,516 | 166 | 183 | 5,141 | 2,144 | 5,025 | 2,140 | 87 | 220 |
| **LOWER CHENAB CANAL.** | | | | | | | | | | | |
| 1905-06 ... ... | 434,878 | 1,369,741 | 1,804,619 | 172 | 182 | 9,653 | 7.528 | 9 271 | 7,595 | 47 | 180 |
| 1906-07 ... ... | 593,258 | 977,595 | 1,570,853 | 168 | 182 | 9,162 | 7,572 | 9,453 | 7,329 | 63 | 133 |
| 1907-08 ... ... | 573,665 | 1,131,631 | 1,705,296 | 167 | 183 | 9,226 | 6,667 | 8,601 | 6,335 | 67 | 179 |
| **LOWER JHELUM CANAL.** | | | | | | | | | | | |
| 1905-06 ... ... | 99,697 | 346,962 | 446,659 | 182 | 161 | 2,646 | 3,047 | 2,483 | 2,857 | 40 | 121 |
| 1906-07 ... ... | 205,483 | 229,600 | 435,083 | 179 | 156 | 2,935 | 3,476 | 2,723 | 3,373 | 75 | 68 |
| 1907-08 ... ... | 147,115 | 396,414 | 543,529 | 180 | 183 | 3,182 | 3,652 | 3,052 | 3,495 | 48 | 113 |
| **UPPER SUTLEJ INUNDATION CANALS.** | | | | | | | | | | | |
| 1905-06 ... ... | 195,345 | 175,638 | 370,983 | 165 | | ... | ... | 4,730 | | 78 | |
| 1906-07 ... ... | 130,597 | 254,220 | 384,817 | 164 | | ... | ... | 5 528 | | 70 | |
| 1907-08 ... ... | 97,415 | 96,438 | 193,853 | 141 | | ... | ... | 2,846 | | 68 | |
| **SIDHNAI CANALS** | | | | | | | | | | | |
| 1905-06 ... ... | 44,122 | 119,175 | 163,297 | 140 | 33 | ... | ... | 1,601 | | 102 | |
| 1906-07 ... ... | 72,114 | 149,828 | 221,942 | 129 | 91 | ... | ... | 1,480 | | 150 | |
| 1907-08 ... ... | 63,428 | 25,413 | 88,841 | 140 | 2 | ... | ... | 1,287 | | 69 | |
| **INDUS INUNDATION CANALS.** | | | | | | | | | | | |
| 1905-06 ... ... | 132,354 | 74,746 | 207,100 | 137 | | ... | ... | 3,001 | | 69 | |
| 1906-07 ... ... | 126,640 | 75,450 | 202,090 | 134 | | ... | ... | 2,929 | | 69 | |
| 1907-08 ... ... | 85,048 | 48,705 | 133,753 | 120 | | ... | ... | 1822 | | 73 | |

# APPENDIX II.

# MAJOR IRRIGATION WORKS.

## LENGTH OF CHANNELS IN OPERATION.

| Description of Channel. | Length of Channel in miles. | | | | |
|---|---|---|---|---|---|
| | At end of March 1905. | *Increase or decrease during* | | | Length at end of March 1908. |
| | | 1905-1906 | 1906-1907 | 1907-1908. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| **WESTERN JUMNA CANAL.** | Miles. | Miles. | Miles. | Miles. | Miles. |
| Main Canal and Branches ... { Imperial ... | 308 | — 1 | ... | — 10 | 297 |
| { Patiala State | 35 | ... | ... | ... | 35 |
| Distributaries (Major and Minor) { Imperial ... | 1,608 | — 37 | — 16 | + 6 | 1,561 |
| { Patiala State | 203 | ... | ... | ... | 203 |
| Lower Chautang Nala Canal ... | 45 | ... | ... | ... | 45 |
| Drainage Channels ... { Imperial ... | 656 | ... | ... | ... | 656 |
| { Patiala State | ... | ... | ... | ... | ... |
| **SIRHIND CANAL.** | | | | | |
| Main Canal and Branches ... { Imperial ... | 319 | ... | ... | ... | 319 |
| { Native States | 219 | ... | ... | ... | 219 |
| Distributaries ... ... { Imperial | 2,693 | — 8 | — 644 | — 96 | 1,945 |
| { Native States | 1,930 | — 9 | + 7 | + 8 | 1,936 |
| Drainage Channels ... { Imperial | 26 | ... | ... | ... | 26 |
| { Native States | 32 | ... | ... | ... | 32 |
| **UPPER BARI DOAB CANAL.** | | | | | |
| Main Canal and Branches ... ... | 353 | ... | ... | + 1 | 354 |
| Feeders ... ... ... ... | 16 | ... | ... | ... | 16 |
| Distributaries (Major and Minor) ... | 1,594 | — 4 | ... | — 10 | 1,580 |
| Drainage Channels ... ... ... | ... | ... | ... | ... | ... |
| **LOWER CHENAB CANAL.** | | | | | |
| Main Canal and Branches ... ... | 427 | ... | ... | ... | 427 |
| Distributaries (Major and Minor.) ... | 2,379 | — 61 | — 10 | — 5 | 2,303 |
| Drainage Channels ... ... ... | 37 | + 47 | ... | ... | 84 |
| **LOWER JHELUM CANAL.** | | | | | |
| Main Canal and Branches ... .. | 113 | ... | .. | + 37 | 150 |
| Distributaries (Major and Minor) ... | 683 | + 298 | + 135 | — 23 | 1,093 |
| Drainage Channels ... ... ... | 6 | + 1 | ... | ... | 7 |
| **UPPER SUTLEJ INUNDATION CANALS.** | | | | | |
| Main Canal and Branches ... ... | 324 | + 4 | ... | + 4 | 332 |
| Distributaries ... .. ... | 394 | — 4 | ... | + 3 | 393 |
| **SIDHNAI CANAL** | | | | | |
| Main Canal and Branches ... ... | 68 | ... | ... | ... | 68 |
| Distributaries ... .. .. | 131 | ... | ... | ... | 131 |
| **INDUS INUNDATION CANALS.** | | | | | |
| Main Canal and Branches ... ... | 657 | + 24 | — 13 | — 11 | 657 |
| Distributaries ... ... ... | 86 | + 28 | — 7 | + 14 | 121 |
| Drainage Channels .. ... ... | 4 | ... | ... | ... | 4 |
| TOTAL— | | | | | |
| Main Canal and Branches { British ... | 2,614 | + 27 | — 13 | + 21 | 2,649 |
| { Native States | 254 | ... | ... | ... | 254 |
| Distributaries ... { British ... | 9,584 | + 212 | — 542 | — 111 | 9,143 |
| { Native States | 2,138 | — 9 | + 7 | + 8 | 2,139 |
| Drainage Channels ... { British .. | 729 | + 48 | ... | ... | 777 |
| { Native States | 32 | ... | ... | ... | 32 |

# APPENDIX 12.

## MAJOR IRRIGATION WORKS.

## WESTERN JUMNA CANAL.

### STATEMENT SHOWING IRRIGATION BY BRANCHES.

| Year. | Main Line. | | Sirsa Branch, British. | | Delhi Branch. | | Butana Branch | | Hansi Branch. | | | | Total Imperial, Irrigation. | | | Sirsa Branch, Patiala State. | | | Grand Total, Western Jumna Canal. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | *British.* | | *Jind State.* | | | | | | | | | | |
| | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 1902-03 ... | 19,417 | 24,077 | 63 458 | 81,977 | 76,746 | 75,234 | 26,575 | 24,556 | 62,045 | 54,370 | 21,757 | 19,667 | 269,998 | 279,881 | 549,879 | 23,268 | 22,082 | 45,350 | 293,266 | 301,963 | 595,229 |
| 1903-04 ... | 18,461 | 25,132 | 70,397 | 68,272 | 75,995 | 104,977 | 34,227 | 32,161 | 78,164 | 53,331 | 24,774 | 21,962 | 302,018 | 305,835 | 607,853 | 28,048 | 27 891 | 55,939 | 330,066 | 333.726 | 663,792 |
| 1904-05 ... | 21,168 | 27,512 | 75,023 | 85,240 | 105,647 | 97,435 | 44,278 | 33,356 | 89,286 | 65,946 | 31,493 | 23,951 | 366,895 | 333,440 | 700,335 | 34,807 | 25,078 | 59,885 | 401,702 | 358 518 | 760,220 |
| Triennial average... | 19,682 | 25,574 | 69,626 | 78,496 | 86,129 | 92,549 | 35,027 | 30,025 | 76,498 | 57,882 | 26,008 | 21,860 | 312,970 | 306,386 | 619,356 | 28,707 | 25,017 | 53.724 | 341,678 | 331,402 | 673,080 |
| 1905-06 ... | 27,447 | 40,385 | 85,613 | 81,970 | 121,080 | 144,509 | 42,804 | 35,016 | 99,233 | 58,925 | 33,571 | 25,693 | 409,748 | 385,498 | 796,246 | 35,728 | 24,451 | 60,179 | 445,476 | 410.949 | 856,425 |
| 1906-07 ... | 27,840 | 37,687 | 87,634 | 100,138 | 120,213 | 99,395 | 48,806 | 35,890 | 92,266 | 70,439 | 33,513 | 22 561 | 410,272 | 366,100 | 776,372 | 39,158 | 36,222 | 75,380 | 449 430 | 402,322 | 851,752 |
| 1907-08 ... | 29,969 | 33,975 | 80,679 | 70,463 | 98,916 | 82,145 | 48,870 | 27,744 | 101,941 | 55.487 | 32,881 | 22,065 | 393,256 | 291,879 | 685,135 | 44,018 | 24,202 | 68,220 | 437,274 | 316,081 | 753 355 |
| Triennial average... | 28 419 | 37,349 | 84,642 | 84,190 | 113,403 | 108,683 | 46,827 | 32,883 | 97,813 | 61,617 | 33,322 | 23 440 | 404,425 | 348,159 | 752 584 | 39,635 | 28,292 | 67,927 | 444,060 | 376,451 | 820,511 |

# APPENDIX 12 A.

## MAJOR IRRIGATION WORKS.

### SIRHIND CANAL CIRCLE.

STATEMENT SHOWING IRRIGATION BY BRANCHES ON SIRHIND CANAL.

| Year. | Irrigation from British Branches. | | | | | | Native States Branches. | | Grand Total. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Abohar Branch.* | | *Bhatinda Branch.* | | *Kotla Branch Tail.* | | | | | | |
| | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 1902-03 ... ... ... ... ... | 185,438 | 268,272 | 117,562 | 191,973 | 1,677 | 2,393 | 141,210 | 203,900 | 445,887 | 666,538 | 1,112,425 |
| 1903-04 ... ... ... ... ... | 164,144 | 290,460 | 106,206 | 168,145 | 1,892 | 1,414 | 136,763 | 171,805 | 409,005 | 631,824 | 1,040,829 |
| 1904-05 ... ... ... ... ... | 187,671 | 317,147 | 115,712 | 190,075 | 2,004 | 845 | 135,360 | 212,056 | 440,747 | 720,123 | 1,160,870 |
| Triennial average ... | 179,084 | 291,960 | 113,160 | 183,398 | 1,858 | 1,551 | 137,778 | 195,920 | 431,880 | 772,828 | 1,104,708 |
| 1905-06 ... ... ... ... ... | 180,492 | 287,634 | 101,505 | 187 785 | 865 | 727 | 149,739 | 275 917 | 432,601 | 752,063 | 1,184,664 |
| 1906 07 ... ... ... ... ... | 161 964 | 278,514 | 100,206 | 180,949 | 691 | 2,095 | 177 326 | 295,967 | 440,187 | 757,525 | 1,197,712 |
| 1907-08 ... ... ... ... ... | 157,818 | 332,488 | 92,093 | 204,838 | 880 | 184 | 134,287 | 266,655 | 385,078 | 804,165 | 1,189,243 |
| Triennial average ... | 166,758 | 299,545 | 97 935 | 191,191 | 812 | 1,002 | 153,784 | 279,513 | 419,289 | 771,251 | 1,190 540 |

# APPENDIX 12 B.

## MAJOR IRRIGATION WORKS.

## UPPER BARI DOAB CANAL.

### STATEMENT SHOWING IRRIGATION BY BRANCHES.

| Year. | Main Line. | | Main Branch, Upper. | | Kasur Branch. | | Sobraon Branch. | | Lahore Branch. | | Main Branch, Lower | | Grand Total. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 1902-03 ... ... ... | 11,987 | 9,275 | 14,839 | 7,181 | 52,954 | 69,822 | 61 906 | 75,794 | 71,188 | 69,712 | 227,978 | 221,226 | 440,852 | 453,010 | 893,862 |
| 1903-04 ... ... ... | 9,861 | 6,582 | 12,651 | 4,439 | 51 985 | 67,586 | 58,092 | 65,318 | 76,298 | 80,512 | 252,054 | 251.309 | 460,941 | 475,746 | 936,687 |
| 1904-05 ... ... ... | 8,796 | 4,654 | 12,691 | 6,535 | 55,472 | 72 216 | 57,850 | 66,581 | 72,882 | 80 627 | 244,067 | 273 370 | 451,758 | 503,983 | 955,741 |
| Triennial average ... | 10,215 | 6,837 | 13 394 | 6,052 | 53,470 | 69 875 | 59,283 | 69,231 | 73,456 | 76 950 | 241,366 | 248,635 | 451,184 | 477,580 | 928,763 |
| 1905 06 ... ... ... | 8,967 | 5,906 | 13,033 | 8,137 | 66,022 | 81,540 | 63,692 | 76,246 | 81,538 | 92,633 | 276,735 | 355,175 | 509,987 | 619,637 | 1,129,624 |
| 1906-07 ... ... ... | 9,689 | 5,448 | 13,490 | 8,550 | 56,424 | 81,691 | 61,521 | 83,404 | 67,300 | 92,368 | 209,086 | 349,775 | 417,510 | 621,236 | 1,038,746 |
| 1907-08 ... ... ... | 10,992 | 8,208 | 14,905 | 9,950 | 52 467 | 61,239 | 62,785 | 67,639 | 65,524 | 75,701 | 230,595 | 247,511 | 437,268 | 470,248 | 907,516 |
| Triennial average ... | 9,883 | 6,521 | 13,809 | 8,879 | 58,304 | 74,823 | 62,666 | 75,763 | 71,454 | 86,901 | 238,805 | 317,487 | 454,921 | 570,374 | 1,025,295 |

# APPENDIX 12 C.

## MAJOR IRRIGATION WORKS.

### LOWER CHENAB CANAL.

STATEMENT SHOWING IRRIGATION BY BRANCHES.

| Year. | Main Canal. | | Kot Nikka Branch. | | Mian Ali Branch. | | Rakh Branch. | | Jhang Branch, Upper. | | Jhang Branch, Lower. | | Bhowana Branch. | | Gugera Branch. | | Buralla Branch. | | Grand Total. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres, | Acres, | Acres. |
| 1902-03 ... | 36,303 | 25,764 | 19,775 | 33,175 | 49,503 | 84,985 | 89,280 | 189,622 | 81,522 | 139,049 | 67,123 | 133,129 | 34,939 | 58,705 | 203,952 | 352,319 | 104,324 | 134,298 | 687,121 | 1,142,048 | 1,829,169 |
| 1903-04 ... | 33,905 | 25,325 | 18,110 | 33,902 | 47,320 | 84,501 | 93,872 | 184,345 | 88,815 | 154,967 | 80,365 | 155,791 | 37,218 | 61,665 | 239,757 | 391,971 | 115,952 | 133,933 | 755,314 | 1,227,400 | 1,982,714 |
| 1904-05 ... | 30,485 | 22,228 | 16,547 | 33,898 | 41,417 | 82,882 | 82,760 | 190,465 | 77,682 | 160,209 | 72,338 | 162,060 | 33,309 | 63,950 | 210,889 | 390,999 | 103,748 | 169,809 | 669,175 | 1,276,500 | 1,945,675 |
| Triennial average. | 33,564 | 24,439 | 18,144 | 33,658 | 46,313 | 84,123 | 88,637 | 185,144 | 82,673 | 151,408 | 73,275 | 150,660 | 35,155 | 61,440 | 218,199 | 378,429 | 108,008 | 146,015 | 703,870 | 1,215,316 | 1,919,186 |
| 1905-06 ... | 23,570 | 19,895 | 15,208 | 32,873 | 27,542 | 91,842 | 56,193 | 209,279 | 44,950 | 164,793 | 53,655 | 171,405 | 26,144 | 68,083 | 132,131 | 423,821 | 55,485 | 187,750 | 434,878 | 1,369,741 | 1,804,619 |
| 1906-07 ... | 27,732 | 3,731 | 14,320 | 5,684 | 38,742 | 48,557 | 76,601 | 120,220 | 70,009 | 113,732 | 63,313 | 146,393 | 30,880 | 59,358 | 174,079 | 317,004 | 97,582 | 162,916 | 593,258 | 977,595 | 1,570,853 |
| 1907-08 ... | 21,456 | 18,815 | 12,834 | 27,149 | 33,392 | 63,849 | 76,996 | 162,349 | 72,844 | 148,586 | 63,583 | 142,070 | 31,479 | 58,466 | 167,723 | 345,624 | 94,053 | 164,323 | 573,665 | 1,131,631 | 1,705,296 |
| Triennial average. | 24,253 | 14,147 | 14,120 | 21,902 | 33,225 | 68,083 | 69,930 | 163,949 | 62,601 | 142,504 | 60,183 | 153,289 | 29,501 | 61,969 | 157,744 | 362,150 | 82,375 | 171,663 | 533,932 | 1,159,656 | 1,693,588 |

# APPENDIX 12 D.

## MAJOR IRRIGATION WORKS.

## LOWER JHELUM CANAL.

### STATEMENT SHOWING IRRIGATION BY BRANCHES.

| Year. | Main Line. | | Northern Branch. | | Southern Branch including Southern Feeder. | | Sulki Branch. | | Grand Total. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| Average of the triennial period ending 31st March 1905 ... | 8,020 | 14,278 | 31,467 | 70,643 | 25,114 | 37,935 | 13,212 | 40,688 | 77,813 | 163,544 | 241,357 |
| 1905-06 ... ... ... ... ... | 11,088 | 19,198 | 29,931 | 115,518 | 47,157 | 166,833 | 11,521 | 45,413 | 99,697 | 346,962 | 446,659 |
| 1906-07 ... ... ... ... ... | 12,381 | 10,461 | 65,359 | 76,541 | 113,050 | 119,292 | 14,693 | 23,303 | 205,483 | 229,600 | 435,083 |
| 1907-08 ... ... ... ... ... | 9,770 | 20,062 | 49,266 | 130,433 | 71,918 | 197,399 | 16,161 | 48,520 | 147,115 | 396,414 | 543,529 |
| Average for the triennial period ending 31st March 1908 ... | 11,080 | 16,574 | 48,185 | 107,498 | 77,375 | 161,175 | 14,125 | 39,078 | 150,765 | 324,325 | 475,090 |

# APPEN

## MAJOR IRRIGA

## UPPER SUTLEJ

STATEMENT SHOWING THE

| Serial No. | Name of Canals. | Length in miles on 31st March 1908. | Area at Settlement. | Average of the triennial period ending 31st March 1905. | | | Area irrigated, in | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | For the | | | | | |
| | | | | | | | 1905-06. | | | 1906-07. | | |
| | | | | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | | Miles. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 1 | Katora ... | 75·31 | 281,594 | 30,600 | 29,320 | 59,320 | 35,143 | 46,649 | 81,792 | 28,965 | 60,715 | 89,680 |
| 2 | Khanwah ... | 88·95 | 251,011 | 35,523 | 23,584 | 59,107 | 56,475 | 42,391 | 98,866 | 36,569 | 67,356 | 103,925 |
| 3 | Upper Sohag ... | 63·95 | 194,722 | 31,850 | 27,667 | 59,517 | 39,014 | 31,461 | 70,475 | 22,717 | 52,015 | 74,732 |
| 4 | Lower Sohag ... | 104·22 | 262,403 | 40,335 | 30,247 | 70,582 | 64,713 | 55,137 | 119,850 | 42,346 | 74,134 | 116,480 |
| | Total ... | 332·44 | 989,730 | 137,709 | 110,819 | 248,528 | 195,345 | 175,638 | 370,983 | 130,597 | 254,220 | 384,817 |
| | Failed or damaged crops (Kharaba). | ... | ... | 20,916 | 126 | 21,042 | 18,764 | 29 | 18,793 | 15,755 | 5 | 15,760 |
| | Grand Total ... | ... | ... | 158,625 | 110,945 | 269,570 | 214,109 | 175,667 | 389,776 | 146,352 | 254,225 | 400,577 |

# DIX 12 E.

## TION WORKS.

## INUNDATION CANALS.

### WORKING OF THE CANALS.

| ACRES. | | | AVERAGE OF THE TRIENNIAL PERIOD ENDING 31ST MARCH 1908. | | | DATES OF OPENING AND CLOSING. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| year. | | | | | | 1905-06. | | 1906-07. | | 1907-08. | | Average of three year ending 31st March 1908. | |
| 1907-08. | | | | | | | | | | | | | |
| Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | | | | | | | | |
| 16,580 | 15,512 | 32,092 | 26,896 | 40,959 | 67,855 | 2nd May 1905. | 5th Octr. 1905. | 5th May 1906. | 11th Octr. 1906. | 13th May 1907. | 29th Septr. 1907. | 7th May | 5th Octr. |
| 23,341 | 15,306 | 38,647 | 38,795 | 41,684 | 80,479 | 27th April 1905. | 13th Octr. 1905. | 3rd May 1906. | 18th Octr. 1906. | 11th May 1907. | 28th Septr. 1907. | 4th May | 10th Octr. |
| 18,330 | 24,457 | 42,787 | 26,687 | 35,978 | 62,665 | 30th April 1905. | 12th Octr. 1905. | 1st May 1906. | 9th Octr. 1906. | 7th May 1907. | 29th Septr. 1907. | 3rd May | 7th Octr. |
| 39,164 | 41,163 | 80,327 | 48,741 | 56,811 | 105,552 | 23rd April 1905. | 11th Octr. 1905. | 2nd May 1906. | 18th Octr. 1906. | 5th May 1907. | 24th Septr. 1907. | 30th April | 8th Octr. |
| 97,415 | 96,438 | 193,853 | 141,119 | 175,432 | 316,551 | | | | | | | | |
| 37,928 | ... | 37,928 | 124,149 | 11 | 24,160 | | | | | | | | |
| 135,343 | 96,438 | 231,781 | 165,268 | 175,443 | 340,711 | | | | | | | | |

# APPEN

## MAJOR IRRIGA

## SIDHNAI

STATEMENT SHOWING THE

| Serial No. | Name of Canal. | Length in miles on 31st March 1908. | Area at Settlement. | Average of the triennial period ending 31st March 1905. | | | Area For 1905-06. | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | | Miles. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 1 | Sidhnai Canal ... | 163·0 | ... | 64,518 | 57,148 | 121,666 | 38,350 | 103,580 | 141,930 |
| 2 | Koranga Canal ... | 15·14 | ... | 1,406 | 2,981 | 4,387 | 1,587 | 4,330 | 5,917 |
| 3 | Fazil Shah Canal ... | 11·314 | ... | 3,648 | 4,682 | 8,330 | 3,178 | 7,225 | 10,403 |
| 4 | Abdul Hakim Canal ... | 10·086 | ... | 2,259 | 2,255 | 4,514 | 1,007 | 4,040 | 5,047 |
| | Total ... | 199·54 | ... | 71 831 | 67,066 | 138,897 | 44,122 | 119 175 | 163,297 |
| | Failed area ... | ... | ... | 30,290 | 13,150 | 43,440 | 76,162 | 15,919 | 92,081 |
| | Grand Total ... | ... | ... | 102,121 | 80,216 | 182,337 | 120,284 | 135,094 | 255,378 |

# DIX 12 F.

## TION WORKS.

## CANAL.

### WORKING OF THE CANALS.

| IRRIGATED, IN ACRES. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *the year.* | | | | | | AVERAGE OF THE TRIENNIAL PERIOD ENDING 31ST MARCH 1908. | | |
| 1906 07. | | | 1907-08. | | | | | |
| Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| Acres | Acres. | Acres | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 63,982 | 131,602 | 195,584 | 55,345 | 21,671 | 77.016 | 52,559 | 85,618 | 138,177 |
| 1,941 | 4,873 | 6,814 | 1,879 | 1,414 | 3,293 | 1,802 | 3,539 | 5,341 |
| 4,455 | 8,229 | 12,685 | 4,499 | 1,927 | 6,356 | 4,021 | 5,794 | 9,815 |
| 1,735 | 5,124 | 6,859 | 1,775 | 401 | 2,176 | 1,506 | 3,188 | 4,694 |
| 72,114 | 149,828 | 221,942 | 63,428 | 25,413 | 88,841 | 59,888 | 98,139 | 158,027 |
| 37,912 | 12,468 | 50,380 | 49,756 | 13,753 | 63,509 | 54,610 | 14,047 | 68,657 |
| 110,026 | 162,296 | 272,322 | 113,184 | 39,166 | 152,350 | 114,198 | 112,186 | 226,684 |

# APPEN
## MAJOR IRRIGA
## INDUS INUNDA

STATEMENT SHOWING THE WORKING OF THE INDUS CANALS

| Serial No. | Name of Canal. | Length in miles on 31st March 1908. | Area at Settlement. | Average of the triennial period ending 31st March 1905. | | | Area irrigated, in | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | For the | | | | | |
| | | | | | | | 1905-06. | | | 1906-07. | | |
| | | | | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | | Miles. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 1 | Massuwah ... | 21 | 2,208 | 3,187 | 243 | 3,430 | 3,714 | 425 | 4,139 | 4,558 | 896 | 5,454 |
| 2 | Fazalwah ... | 25 | 7,699 | 6,919 | 1,766 | 8,685 | 6,987 | 610 | 7,597 | 12,260 | 3,543 | 15,803 |
| 3 | Manka ... | 148 | 31,846 | 23,773 | 9,291 | 33,064 | 25,779 | 9,731 | 35,510 | 18,939 | 11,513 | 30,452 |
| 4 | Shoria ... | 57 | 21,438 | 20,676 | 12,192 | 32,868 | 21,203 | 13,928 | 35,131 | 20,104 | 14,934 | 35,038 |
| 5 | Kasturi ... | 11 | 12,108 | 5,543 | 4,164 | 9,707 | 6,304 | 4,510 | 10,814 | 5,494 | 4,162 | 9,656 |
| 6 | Dhingana ... | 62 | 18,425 | 12,275 | 8,693 | 20,968 | 14,031 | 11,592 | 25,623 | 11,925 | 9,682 | 21,607 |
| 7 | Chibri ... | 18 | 6,258 | 3,661 | 2,685 | 6,346 | 3,849 | 3,322 | 7,171 | 3,137 | 3,021 | 6,158 |
| 8 | Sahiban ... | 33 | 11,688 | 9,224 | 4,478 | 13,702 | 10,172 | 6,346 | 16,518 | 10,061 | 5,989 | 16,050 |
| 9 | Gamunwala ... | 19 | 4,943 | 3,096 | 1,104 | 4,200 | 3,637 | 1,920 | 5,557 | 1,548 | 1,473 | 3,021 |
| 10 | Sohan ... | 32 | 8,327 | 5,319 | 2,838 | 8,157 | 6,484 | 5,017 | 11,501 | 5,476 | 3,584 | 9,060 |
| 11 | Nur Dhundi ... | 112 | 13,669 | 8,760 | 6,799 | 15,559 | 12,438 | 8,226 | 20,664 | 10,569 | 8,014 | 18,583 |
| 12 | Dhundi Kutab ... | 135 | 21,318 | 19,329 | 14,570 | 33,899 | 12,260 | 8,498 | 20,758 | 17,865 | 6,937 | 24,802 |
| 13 | Kadra ... | 105 | 5,217 | 5,191 | 608 | 5,799 | 5,496 | 621 | 6,117 | 4,704 | 1,702 | 6,406 |
| | Total ... | 778 | 165,144 | 126,953 | 69,431 | 196,384 | 132,354 | 74,746 | 207,100 | 126,640 | 75,450 | 202,090 |
| | Failed or damaged crops (kharaba.) | ... | ... | 41,118 | 9,275 | 50,393 | 37,600 | 5,624 | 43,224 | 41,815 | 12,822 | 54,637 |
| | Grand Total ... | ... | ... | 168,071 | 78,706 | 246,777 | 169,954 | 80,370 | 250,324 | 168,455 | 88,272 | 256,727 |

# DIX 12 G.

## TION WORKS.

## TION CANALS.

FOR THE TRIENNIAL PERIOD 1905-06, 1906-07, 1907-08.

| ACRES. | | | AVERAGE OF THE TRIENNIAL PERIOD ENDING 31ST MARCH 1908. | | | DATE OF OPENING AND CLOSING. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| year. | | | | | | 1905-06. | | 1906-07. | | 1907-08. | | Average of 10 Years ending 31st March 1908. | |
| 1907-08. | | | | | | | | | | | | | |
| Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | | | | | | | | |
| 1,072 | 464 | 1 536 | 3,115 | 595 | 3,710 | May 22nd | Sept. 19th | May 20th | Sept. 21st | May 26th | Augt. 30th | 15th May | 21st Sept. |
| 7,447 | 1,348 | 8,795 | 8,898 | 1,834 | 10,732 | Sept. 29th | „ 21st | June 1st | „ 17th | June 6th | Sept. 17th | 23rd May | 17th Sept. |
| 18,220 | 5.732 | 23,952 | 20,979 | 8 992 | 29,971 | May 10th | Oct. 1st | May 25th | „ 30th | May 22nd | Oct 20th | 10th May | 29th Oct. |
| 13,537 | 9,903 | 23,440 | 18,281 | 12,922 | 31,203 | „ 15th | „ 2nd | „ 19th | Oct. 10th | „ 23rd | „ 8th | 5th May | 3rd Dec. |
| 3,175 | 3.411 | 6,586 | 4,991 | 4,028 | 9,019 | April 27th | „ 7th | „ 1st | Sept. 21st | „ 6th | Sept. 10th | 4th May | 28th Sept. |
| 7,673 | 7,869 | 15,542 | 11,210 | 9,714 | 20,924 | May 14th | Novr. 5th | „ 15th | „ 22nd | „ 23rd | „ 14th | 7th May | 5th Oct. |
| 2,210 | 2,576 | 4,786 | 3,065 | 2,973 | 6,038 | „ 24th | Oct. 10th | „ 15th | „ 21st | „ 21st | „ 25th | 14th May | 14th Oct. |
| 4,149 | 3,685 | 7,834 | 8,127 | 5,340 | 13,467 | „ 15th | Nov. 5th | „ 10th | „ 30th | June 1st | „ 24th | 11th May | 21st Oct. |
| 2,866 | 1.659 | 4,525 | 2,684 | 1 684 | 4,368 | „ 14th | Oct. 11th | „ 16th | „ 20th | May 25th | „ 24th | 7th May | 21st Sept |
| 5,523 | 4,503 | 10,026 | 5,828 | 4 368 | 10,196 | „ 14th | „ 24th | „ 16th | „ 25th | „ 25th | Sept. 26th | 7th May | 15th Oct. |
| 6,468 | 2,975 | 9 443 | 9,825 | 6,405 | 16,230 | June 1st | „ 23rd | „ 19th | Oct. 13th | „ 29th | „ 21st | 18th May | 15th Oct. |
| 10,514 | 3,317 | 13,831 | 13,546 | 6,251 | 19,797 | „ 2nd | „ 5th | „ 15th | „ 2nd | „ 22nd | Oct. 14th | 15th May | 23rd Oct. |
| 2,194 | 1,263 | 3,457 | 4,131 | 1,195 | 5,326 | May 28th | Sept. 30th | „ 20th | „ 10th | June 1st | „ 22nd | 18th May | 13th Oct. |
| 85,048 | 48,705 | 133,753 | 114,680 | 66,301 | 180,981 | | | | | | | | |
| 51,981 | 8,722 | 60,703 | 43,799 | 9,056 | 52,855 | | | | | | | | |
| 137,029 | 57,427 | 194,456 | 158,479 | 75,357 | 233,836 | | | | | | | | |

# APPENDIX 13

## MAJOR IRRIGATION WORKS.

### NAVIGATION RECEIPTS AND CHARGES.

| Particulars. | Average of triennial period ending March 1905. | | Period under review. | | | | | | Average of triennial period ending March 1908. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1905-06. | | 1906-07. | | 1907-08. | | | |
| | Imperial. | Contribution. | Imperial. | Contribution. | Imperial. | Contribution. | Imperial. | Contribution. | Imperial. | Contribution. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| **WESTERN JUMNA CANAL.** | | | | | | | | | | |
| Tollage on private boats ... | 4,424 | ... | 2,441 | ... | 2,194 | ... | 1,298 | ... | 1,978 | ... |
| Do. on Government boats... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Do. on rafts ... ... | 66,793 | ... | 69,996 | ... | 68,007 | ... | 64,303 | ... | 67,435 | ... |
| Hire of Government boats ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total ... | 71,217 | ... | 72,437 | ... | 70,201 | ... | 65,601 | ... | 69,413 | ... |
| Deduct refunds of tolls ... | 967 | ... | 1,162 | ... | 583 | ... | 1,003 | ... | 916 | ... |
| Net Total ... | 70,250 | ... | 71,275 | ... | 69,618 | ... | 64,598 | ... | 68,497 | ... |
| Maintenance charges ... | 4,481 | ... | 3,814 | ... | 3,336 | ... | 7,907 | ... | 5,019 | ... |
| Profit ... | 65,769 | ... | 67,461 | ... | 66,282 | ... | 56,691 | ... | 63,478 | ... |
| **SIRHIND CANAL.** | | | | | | | | | | |
| Tollage on private boats ... | 1,472 | 775 | 1,745 | 964 | 1,539 | 927 | 1,394 | 825 | 1,559 | 906 |
| Do. on Government boats... | 9 | 6 | ... | ... | ... | ... | ... | ... | ... | ... |
| Do. on rafts ... ... | 2,296 | 1,311 | 3,336 | 2,097 | 3,459 | 1,967 | 3,466 | 2,099 | 3,421 | 2,054 |
| Hire of Government boats ... | 42 | 23 | ... | ... | ... | ... | ... | ... | ... | ... |
| Total ... | 3,819 | 2,115 | 5,081 | 3,061 | 4,998 | 2,894 | 4,860 | 2,924 | 4,980 | 2,960 |
| Deduct refunds of tolls ... | 66 | 15 | ... | ... | ... | ... | 95 | 53 | 32 | 18 |
| Net Total ... | 3,753 | 2,100 | 5,081 | 3,061 | 4,998 | 2,894 | 4,765 | 2,871 | 4,948 | 2,942 |
| Total Imperial and Contributions | 5,853 | | 8,142 | | 7,892 | | 7,636 | | 7,890 | |
| Maintenance charges ... | 7,607 | | 26,569 | | 18,116 | | 17,477 | | 20,721 | |
| Loss | – 1,754 | | – 18,427 | | – 10,224 | | – 9,851 | | – 12,831 | |

# APPENDIX 14.

## MAJOR IRRIGATION WORKS.

## WESTERN JUMNA CANAL.

### JIND DISTRIBUTARIES.

### DETAIL OF IRRIGATION.

| Name of Distributary. | Estimated area of annual irrigation. | Average area of triennial period ending March 1905. | | | Periods under review. | | | | | | | | | Average for the triennial period ending March 1908. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1905-06. | | | 1906-07. | | | 1907-08. | | | | | |
| | | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| Distributary No. I ... ... ... | 9,419 | 3,629 | 4,062 | 7,691 | 4,194 | 4,955 | 9,149 | 4,699 | 4,780 | 9,479 | 4,369 | 5,270 | 9,639 | 4,421 | 5,002 | 9,423 |
| " " II ... ... ... | 1,380 | 600 | 739 | 1,339 | 732 | 938 | 1,670 | 624 | 676 | 1,300 | 677 | 829 | 1,506 | 678 | 814 | 1,492 |
| " " III ... ... ... | 8,708 | 3,768 | 3,189 | 6,957 | 4,756 | 4,504 | 9,260 | 5,103 | 3,802 | 8,905 | 4,154 | 3,468 | 7,622 | 4,671 | 3,925 | 8,596 |
| " " IV ... ... ... | 21,515 | 8,942 | 7,430 | 16,372 | 10,971 | 8,070 | 19,041 | 11,026 | 6,907 | 17,933 | 11,855 | 5,842 | 17,697 | 11,284 | 6,939 | 18,223 |
| " " V ... ... ... | 7,594 | 3,404 | 2,657 | 6,061 | 4,659 | 2,809 | 7,468 | 4,502 | 2,342 | 6,844 | 4,090 | 2,363 | 6,453 | 4,417 | 2,505 | 6,922 |
| " " VI ... ... ... | 4,609 | 2,242 | 1,327 | 3,569 | 3,417 | 1,281 | 4,698 | 3,017 | 1,421 | 4,438 | 3,227 | 1,259 | 4,486 | 3,221 | 1,320 | 4,541 |
| " " VII ... ... ... | 3,991 | 1,177 | 810 | 1,987 | 1,905 | 906 | 2,811 | 1,542 | 701 | 2,243 | 1,707 | 966 | 2,673 | 1,718 | 858 | 2,576 |
| " " VIII ... ... ... | 2,256 | 1,429 | 958 | 2,387 | 1,812 | 1,030 | 2,842 | 1,716 | 938 | 2,654 | 1,696 | 994 | 2,690 | 1,741 | 987 | 2,728 |
| Garden watercourse ... ... ... | ... | 201 | 315 | 516 | 672 | 398 | 1,070 | 455 | 344 | 799 | 407 | 455 | 862 | 511 | 399 | 910 |
| Outlet from Butana Distributary ... ... | 528 | 616 | 373 | 989 | 453 | 802 | 1,255 | 829 | 650 | 1,479 | 699 | 619 | 1,318 | 660 | 690 | 1,350 |
| Outlet of village Khakrai in Manoharpur cut-off... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total ... ... | 60,000 | 26,008 | 21,860 | 47,868 | 33,571 | 25,693 | 59,264 | 33,513 | 22,561 | 56,074 | 32,881 | 22,065 | 54,946 | 33,322 | 23,439 | 56,761 |
| Flow ... ... ... ... ... | ... | 25,486 | 21,311 | 46,797 | 32,593 | 24,890 | 57,483 | 32,557 | 22,195 | 54,752 | 32,423 | 21,436 | 53,859 | 32,524 | 22,840 | 55,364 |
| Lift ... ... ... ... ... | ... | 522 | 549 | 1,071 | 978 | 803 | 1,781 | 956 | 366 | 1,322 | 458 | 629 | 1,087 | 798 | 599 | 1,397 |
| Total as above ... ... | ... | 26,008 | 21,860 | 47,868 | 33,571 | 25,693 | 59,264 | 33,513 | 22,561 | 56,074 | 32,881 | 22,065 | 54,946 | 33,322 | 23,439 | 56,761 |

# APPENDIX 15.

## MAJOR IRRIGATION WORKS.

## WESTERN JUMNA CANAL.

### JIND DISTRIBUTARIES.

### FINANCIAL RESULTS OF THE WORKING OF THE JIND DISTRIBUTARIES.

| Particulars. | Average of the triennial period ending March 1905. | Period under review. | | | Average of the triennial period ending March 1908. |
|---|---|---|---|---|---|
| | | 1905-06. | 1906-07. | 1907-08. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| **WESTERN JUMNA CANAL.** | Rs. | Rs. | Rs. | Rs. | Rs. |
| RECEIPTS. | | | | | |
| Occupiers' rates ... ... ... | 1,28,796 | 1,52,283 | 1,57,126 | 1,52,157 | 1,53,855 |
| Miscellaneous ... ... ... | 5,585 | 4,287 | 4,839 | 4,329 | 4,485 |
| Total ... | 1,34,381 | 1,56,570 | 1,61,965 | 1,56,486 | 1,58,340 |
| WORKING EXPENSES. | | | | | |
| Establishment ... ... ... | 7,494 | 8,218 | 8,042 | 6,829 | 7,696 |
| Other expenditure ... ... | 14,618 | 20,746 | 28,489 | 30,407 | 26,547 |
| Occupiers' rate paid into British treasury ... | 1,19,644 | 1,19,644 | 1,19,644 | 1,19,644 | 1,19,644 |
| Total Working Expenses ... | 1,41,756 | 1,48,608 | 1,56,175 | 1,56,880 | 1,53,887 |
| Profit or loss ... ... ... | —7,375 | +7,962 | +5,790 | —394 | 4,453 |
| Total as above ... | 1,34,381 | 1,56,570 | 1,61,965 | 1,56,486 | 1,58,340 |

# APPENDIX 16.

## MAJOR IRRIGATION WORKS.

## SIRHIND CANAL.

### PATIALA, NABHA AND JIND STATES.

### FINANCIAL RESULTS OF THE WORKING OF THE NATIVE STATES' BRANCHES.

| Particulars. | Average of the triennial period ending March 1905. | Period under review. | | | Average of the triennial period ending March 1908. |
|---|---|---|---|---|---|
| | | 1905-06. | 1906-07. | 1907-08. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Rs. | Rs. | Rs. | Rs. | Rs. |
| **PATIALA STATE.** | | | | | |
| Income from all sources ... ... | 10,52,543 | 11,42,736 | 16,25,473 | 16,16,776 | 14,61,662 |
| Working Expenses ... ... | 4,09,485 | 5,18,254 | 4,91,647 | 5,85,410 | 5,31,771 |
| Net Revenue ... | 6,43,058 | 6,24,482 | 11,33,826 | 10,31,366 | 9,29,891 |
| Capital Outlay ... ... ... | 1,17,88,251 | 1,17,92,000 | 1,17,96,755 | 1,17,96,755 | 1,17,95,170 |
| Percentage on Capital ... ... | 5·43 | 5·29 | 9·61 | 8·74 | 7·88 |
| **NABHA STATE.** | | | | | |
| Income from all sources ... ... | 1,26,037 | 2,12,021 | 2,09,372 | 2,09,114 | 2,10,169 |
| Working Expenses ... ... | 76,995 | 75,908 | 84,209 | 85,020 | 81,712 |
| Net Revenue ... | 49,042 | 1,36,113 | 1,25,163 | 1,24,094 | 1,28,457 |
| Capital Outlay ... ... ... | 12,40,868 | 12,41,262 | 12,41,764 | 12,41,764 | 12,41,597 |
| Percentage on Capital ... ... | 3·95 | 10·97 | 10·08 | 9·99 | 10·35 |
| **JIND STATE.** | | | | | |
| Income from all sources ... ... | 1,04,489 | 1,11,859 | 1,47,780 | 1,31,298 | 1,30,312 |
| Working Expenses ... ... | 38,309 | 40,491 | 44,106 | 47,578 | 44,058 |
| Net Revenue ... | 66,180 | 71,368 | 1,03,674 | 83,720 | 86,254 |
| Capital Outlay ... ... ... | 10,71,659 | 10,72,000 | 10,72,432 | 10,72,432 | 10,72,288 |
| Percentage on Capital ... ... | 6·18 | 6·66 | 9·67 | 7·82 | 8·05 |

# APPENDIX 17.

## MAJOR IRRIGATION WORKS.

### SIRHIND CANAL.

PATIALA, NABHA AND JIND STATES.

WORKING OF THE NATIVE STATES BRANCHES, SIRHIND CANAL.

| Year. | Area irrigated in acres. | | | Number of days Canal was in flow. | | Supply utilized in Native States Branches. | | Duty on Supply utilized. | |
|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | Acres. | Acres. | Acres. | No. | No. | Cusecs. | Cusecs. | Acres. | Acres. |
| 1905-06 ... .. ... ... | 149,739 | 275,917 | 425,656 | 139 | 182 | 2,302 | 1,846 | 65 | 149 |
| 1906-07 ... ... ... ... | 177,326 | 295,967 | 473,293 | 137 | 182 | 1,942 | 1,969 | 91 | 150 |
| 1907-08 ... ... ... ... | 134,287 | 266,655 | 400,942 | 131 | 183 | 1,817 | 1,516 | 74 | 176 |

# APPENDIX 18.

## MAJOR IRRIGATION WORKS.

### SIRHIND CANAL.

AREAS IRRIGATED IN THE PATIALA, NABHA AND JIND STATES BY THE NATIVE STATES BRANCHES.

| Year. | Patiala. | | | Nabha. | | | Jind. | | | Grand Total. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 1902-03 ... ... ... ... | 116,273 | 172,562 | 288,835 | 14,857 | 15,506 | 30,363 | 10,080 | 15,832 | 25,912 | 141,210 | 203,900 | 345,110 |
| 1903-04 ... ... ... ... | 110,083 | 140,110 | 250,193 | 15,323 | 16,417 | 31,740 | 11,357 | 15,278 | 26,635 | 136,763 | 171,805 | 308,568 |
| 1904-05 ... ... ... ... | 110,392 | 179,142 | 289,534 | 15,009 | 18,980 | 33,989 | 9,959 | 13,934 | 23,893 | 135,360 | 212,056 | 347,416 |
| Triennial average ... | 112,249 | 163,938 | 276,187 | 15,063 | 16,968 | 32,031 | 10,465 | 15,015 | 25,480 | 137,778 | 195,920 | 333,698 |
| 1905-06 ... ... ... ... | 121,928 | 226,926 | 348,854 | 16,512 | 29,279 | 45,791 | 11,299 | 19,712 | 31,011 | 149,739 | 275,917 | 425,656 |
| 1906-07 ... ... ... ... | 145,019 | 250,011 | 395,030 | 19,257 | 26,668 | 45,925 | 13,050 | 19,288 | 32,338 | 177,326 | 295,967 | 473,293 |
| 1907-08 ... ... ... ... | 106,655 | 217,033 | 323,688 | 16,779 | 29,085 | 45,864 | 10,853 | 20,537 | 31,390 | 134,287 | 266,655 | 400,942 |
| Triennial average ... | 124,534 | 231,323 | 355,857 | 17,516 | 28,344 | 45,860 | 11,734 | 19,846 | 31,580 | 153,784 | 279,513 | 433,297 |

# APPENDIX 10.

## MINOR IRRIGATION WORKS.

CAPITAL ACCOUNT (DIRECT AND INDIRECT).

| Canals. | Outlay to end of March 1905. | Outlay during | | | Outlay to end of March 1908. |
|---|---|---|---|---|---|
| | | 1905-06. | 1906-07. | 1907-08. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Rs. | Rs. | Rs. | Rs. | Rs. |
| **SHAHPUR (IMPERIAL) CANALS.** | | | | | |
| Imperial ... ... — ... | 2,15,914 | ... | ... | ... | 2,15,914 |
| **GHAGGAR (INUNDATION) CANALS.** | | | | | |
| Imperial ... ... ... ... | 3,43,245 | ... | 76 | ... | 3,43,321 |
| Bikaner State ... ... ... | 2,84,287 | ... | 32 | ... | 2,84,319 |
| Total ... Imperial ... ... | 5,59,159 | ... | 76 | ... | 5,59,235 |
| Total ... Bikaner State ... | 2,84,287 | ... | 32 | ... | 2,84,319 |

# APPENDIX 20.

## MINOR IRRIGATION WORKS.

### GROSS REVENUE REALIZATIONS (DIRECT AND INDIRECT).

| Particulars. | Collections. | | | | |
|---|---|---|---|---|---|
| | Average of the triennial period ending March 1905. | For the year | | | Average of the triennial period ending March 1908. |
| | | 1905-06. | 1906-07. | 1907-08. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| **SHAHPUR IMPERIAL CANALS.** | Rs. | Rs. | Rs. | Rs. | Rs. |
| Direct ... ... ... ... | 78,975 | 54,141 | 70,926 | 53,416 | 59,494 |
| Indirect ... ... ... ... | 15,642 | 10,478 | 12,969 | 10,558 | 11,335 |
| Total ... | 94,617 | 64,619 | 83,895 | 63,974 | 70,829 |
| **SHAHPUR PROVINCIAL CANALS.** | | | | | |
| Direct ... ... ... ... | 47,155 | 39,640 | 41,216 | 30,696 | 37,184 |
| Indirect ... ... ... ... | 9,800 | 7,372 | 9,101 | 6,067 | 7,513 |
| Total ... | 56,955 | 47,012 | 50,317 | 36,763 | 44,697 |
| **LOWER SUTLEJ INUNDATION CANALS.** | | | | | |
| Direct— | | | | | |
| Occupiers' rates ... ... | 1,24,663 | 1,96,044 | 2,34,269 | 2,29,678 | 2,19,997 |
| Miscellaneous ... ... ... | 1,953 | 2,162 | 3,058 | 3,989 | 3,069 |
| Contribution from Zar-i-Nagha ... | 34,365 | 6,791 | 4,132 | ... | 3,641 |
| Chher Labour ... ... ... | 41,777 | ... | ... | ... | ... |
| Total ... | 2,12,758 | 2,04,997 | 2,41,459 | 2,33,667 | 2,26,707 |
| Indirect ... ... ... ... | 2,11,850 | 2,09,421 | 2,44,882 | 2,57,657 | 2,37,320 |
| Total ... | 4,24,608 | 4,14,418 | 4,86,341 | 4,91,324 | 4,64,027 |
| **CHENAB INUNDATION CANALS.** | | | | | |
| Direct— | | | | | |
| Occupiers' rates... ... ... | 1,50,968 | 1,23,113 | 1,74,919 | 1,97,831 | 1,65,288 |
| Miscellaneous ... ... ... | 5,166 | 5,377 | 6,601 | 4,156 | 5,378 |
| Contribution from Zar-i-Nagha ... | 4,685 | ... | ... | ... | ... |
| Total ... | 1,60,819 | 1,28,490 | 1,81,520 | 2,01,987 | 1,70,666 |
| Indirect ... ... .. ... | 1,96,589 | 1,78,403 | 2,35,162 | 2,37,004 | 2,16,856 |
| Total ... | 3,57,408 | 3,06,893 | 4,16,682 | 4,38,991 | 3,87,522 |

# APPENDIX 20—*concluded.*

| Particulars. | Collections. | | | | |
|---|---|---|---|---|---|
| | Average of the triennial period ending March 1905. | *For the year* 1905-06. | 1906-07. | 1907-08. | Average of the triennial period ending March 1908. |
| 1 | 2 | 3 | 4 | 5 | 6 |
| **MUZAFFARGARH INUNDATION CANALS.** | Rs. | Rs. | Rs | Rs. | Rs. |
| Direct— | | | | | |
| Occupiers' rates ... ... | 1,44,856 | 2,14,829 | 2,28,156 | 1,97,256 | 2,13,414 |
| Miscellaneous ... ... ... | 3,410 | 9,128 | 3,169 | 12,223 | 8,173 |
| Contribution from Zar-i-Nagha ... | 48,503 | 14,997 | 9,897 | 23,384 | 16,093 |
| Chher Labour ... ... ... | 33,792 | ... | ... | ... | ... |
| Total ... | 2,30,561 | 2,38,954 | 2,41,222 | 2,32,863 | 2,37,680 |
| ndirect ... ... ... ... | 3,43,914 | 3,49,201 | 3,52,265 | 3,42,779 | 3,48,082 |
| Total ... | 5,74,475 | 5,88,155 | 5,93,487 | 5,75,642 | 5,85,762 |
| **GHAGGAR INUNDATION CANALS.** | | | | | |
| Imperial. | | | | | |
| Direct ... ... ... ... | 3,515 | 3,884 | 6,937 | 14,160 | 8,327 |
| Indirect ... ... ... ... | ... | ... | ... | ... | ... |
| Total ... | 3,515 | 3,884 | 6,937 | 14,160 | 8,327 |
| **BIKANER STATE.** | | | | | |
| Direct ... ... ... ... | ... | ... | 204 | 18 | 74 |
| **RAVI INUNDATION CANALS.** | Average for two yers | | | | |
| Provincial. | | | | | |
| Direct ... ... ... ... | 6,851 | 7,714 | 14,086 | 14,200 | 12,000 |
| Indirect ... ... ... ... | 8,219 | 13,720 | 19,625 | 15,714 | 16,353 |
| Total ... | 15,070 | 21,434 | 33,711 | 29,914 | 28,353 |
| **GRAND TOTAL.** | | | | | |
| Imperial ... Direct ... ... | (*a*) 6,83,113 | 6,30,466 | 7,42,064 | 7,36,093 | 7,02,874 |
| Imperial ... Indirect ... ... | 7,67,995 | 7,47,503 | 8,45,278 | 8,47,998 | 8,13,593 |
| Provincial ... Direct ... ... | (*b*) 47,155 | 47,354 | 55,302 | 44,896 | 49,184 |
| Provincial ... Indirect ... ... | (*b*) 2,800 | 21,092 | 28,726 | 21,781 | 23,866 |
| Bikaner State, Direct ... ... | ... | ... | 204 | 18 | 74 |

(*a*) Excludes Ghaggar Inundation Canals.
(*b*) Excludes Ravi Inundation Canals.

# APPENDIX 21.

## MINOR IRRIGATION WORKS.

### COST OF WORKING EXPENSES (DIRECT AND INDIRECT).

| Particulars. | Expenditure. | | | | |
|---|---|---|---|---|---|
| | Average of the triennial period ending March 1905. | *During the year* | | | Average of the triennial period ending March 1908. |
| | | 1905-06. | 1906-07. | 1907 08. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Rs. | Rs. | Rs. | Rs. | Rs. |
| **SHAHPUR IMPERIAL CANALS.** | | | | | |
| Extensions and Improvements ... ... | 6 | ... | 734 | ... | 245 |
| Maintenance and Repairs ... ... | 19 388 | 24 535 | 18,672 | 30,533 | 24,580 |
| Other heads ... ... ... | 20.007 | 19,790 | 21,677 | 21,774 | 21,080 |
| Total ... | 39,401 | 44,325 | 41,083 | 52,307 | 45 905 |
| Indirect Charges ... ... ... | 2,783 | 2,757 | 2,994 | 2,939 | 2,917 |
| Total Working Expenses ... | 42,184 | 47,082 | 44,077 | 55,306 | 48,822 |
| Working Expenses per acre ... | 1·51 | 1·58 | 2·24 | 3·17 | 2·19 |
| **SHAHPUR PROVINCIAL CANALS.** | | | | | |
| Extensions and Improvements ... ... | 1,379 | 231 | 329 | 500 | 353 |
| Maintenance and Repairs ... ... | 11,065 | 13,708 | 6,547 | 18,198 | 12,818 |
| Other heads ... ... ... | 16,140 | 16,816 | 15,806 | 17,747 | 16,790 |
| Total ... | 28,584 | 30,755 | 22,682 | 36,445 | 29,961 |
| Indirect Charges ... ... ... | 2,253 | 2,343 | 2,172 | 2,459 | 2,324 |
| Total Working Expenses ... | 30,837 | 33,098 | 24,854 | 38,904 | 32,285 |
| Working Expenses per acre ... | 1·20 | 1·33 | 1·24 | 2·61 | 1·62 |
| **LOWER SUTLEJ INUNDATION CANALS.** | | | | | |
| Imperial. | | | | | |
| Extensions and Improvements ... ... | 69,920 | 32,766 | 4,845 | 1,890 | 13,167 |
| Maintenance and Repairs ... ... | 73,476 | 1,22,542 | 1,23,435 | 1,51,455 | 1,32,477 |
| Other heads ... ... ... | 69,874 | 89,530 | 77,096 | 84,786 | 83,804 |
| Total ... | 2,13,270 | 2,44,838 | 2,05,376 | 2,38,131 | 2,29,448 |
| **ZAR-I-NAGHA.** | | | | | |
| Extensions and Improvements ... ... | 10,583 | 1,825 | ... | ... | 612 |
| Maintenance and Repairs ... ... | 32,9 0 | 4,956 | 4,132 | ... | 3,029 |
| Other heads ... ... ... | 872 | ... | ... | ... | ... |
| Total ... | 44,365 | 6,791 | 4,132 | ... | 3,641 |
| Chher Labour ... ... ... | ... | ... | ... | ... | ... |
| Indirect Charges ... ... ... | 8,828 | 11,679 | 10,995 | 11,455 | 11,376 |
| Total Working Expenses ... | 3,08,240 | 2,63,308 | 2,20,503 | 2,49,586 | 2,44,465 |
| Working Expenses per acre ... | 1·66 | 1·25 | 0·97 | 1·85 | 1·28 |

## APPENDIX 21—*continued.*

| Particulars. | Expenditure. | | | | |
|---|---|---|---|---|---|
| | Average of the triennial period ending March 1905. | *During the year* | | | Average of the triennial period ending March 1908. |
| | | 1905-06. | 1906-07. | 1907-08. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Rs. | Rs. | Rs. | Rs. | Rs. |
| **CHENAB INUNDATION CANALS.** | | | | | |
| IMPERIAL. | | | | | |
| Extensions and Improvements ... ... | 67,148 | 46,743 | 45,078 | 17,251 | 36,358 |
| Maintenance and Repairs ... ... | 1,81,894 | 1,68,774 | 2,07,467 | 1,81,463 | 1,85,881 |
| Other heads ... ... ... | 48,042 | 50,915 | 52,616 | 53,427 | 52,319 |
| Total ... | 2,97,084 | 2,66,372 | 3,05,161 | 2,52,141 | 2,74,558 |
| **ZAR-I-NAGHA.** | | | | | |
| Extensions and Improvements ... ... | 4,322 | ... | ... | ... | ... |
| Maintenance and Repairs ... ... | 226 | ... | ... | ... | ... |
| Other heads ... ... ... | ... | ... | ... | ... | ... |
| Total ... | 4,548 | ... | ... | ... | ... |
| Chher Labour ... ... ... | ... | ... | ... | ... | ... |
| Indirect Charges ... ... ... | 7,530 | 8,496 | 7,195 | 7,674 | 7,788 |
| Total Working Expenses ... | 3,09,163 | 2,74,868 | 3,12,356 | 2,59,815 | 2,82,346 |
| Working Expenses per acre ... | 2·6 | 1·98 | 1·84 | 2·35 | 2·02 |
| **MUZAFFARGARH INUNDATION CANALS.** | | | | | |
| IMPERIAL | | | | | |
| Extensions and Improvements ... ... | 20,965 | 30,547 | 21,821 | 44,775 | 32,381 |
| Maintenance and Repairs ... ... | 82,506 | 1,62,723 | 1,58,958 | 1,64,930 | 1,62,203 |
| Other heads ... ... ... | 95,597 | 1,09,776 | 1,21,604 | 1,28,283 | 1,19,888 |
| Total ... | 1,99,068 | 3,03,046 | 3,02,383 | 3,37,988 | 3,14,472 |
| **ZAR-I-NAGHA.** | | | | | |
| Extensions and Improvements ... ... | 11,726 | 9,232 | 3,122 | 2,171 | 4,842 |
| Maintenance and Repairs ... ... | 34,701 | 5,765 | 6,775 | 21,213 | 11,251 |
| Other heads ... ... ... | 2,076 | ... | ... | ... | ... |
| Total ... | 48,503 | 14,997 | 9,897 | 23,384 | 16,093 |
| Chher Labour ... ... ... | 33,792 | ... | ... | ... | ... |
| Indirect Charges ... ... ... | 12,328 | 15,006 | 15,972 | 16,749 | 15,909 |
| Total Working Expenses ... | 2,93,691 | 3,33,049 | 3,28,252 | 3,78,121 | 3,46,474 |
| Working Expenses per acre ... | 1·04 | 1·12 | 1·10 | 1·70 | 1·28 |

# APPENDIX 21—*concluded.*

| PARTICULARS. | EXPENDITURE. | | | | |
|---|---|---|---|---|---|
| | Average of the triennial period ending March 1905. | *During the year* | | | Average of the triennial period ending March 1908. |
| | | 1905-06. | 1906-07. | 1907-08. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Rs. | Rs. | Rs. | Rs. | Rs. |
| **GHAGGAR INUNDATION CANALS.** | | | | | |
| IMPERIAL. | | | | | |
| Extensions and Improvements | 1,407 | 2,412 | 1,179 | ... | 1,197 |
| Maintenance and Repairs | 8,496 | 5,759 | 7,265 | 8,384 | 7,136 |
| Other heads | 22,550 | 18,695 | 19,325 | 18,776 | 18,932 |
| Total | 32,493 | 26,867 | 27,769 | 27,160 | 27,265 |
| Indirect Charges | 2,679 | 2,608 | 2,554 | 2,604 | 2,589 |
| Total Working Expenses | 35,172 | 29,475 | 30,323 | 29,764 | 29,854 |
| Working Expenses per acre | 2·91 | 2·16 | 1·39 | 3·09 | 1·99 |
| **BIKANER STATE.** | | | | | |
| Extensions and Improvements | 415 | 297 | 651 | ... | 316 |
| Maintenance and Repairs | 7,022 | 1,561 | 2,308 | 2,875 | 2,248 |
| Other heads | 2,478 | 406 | 780 | 797 | 661 |
| Total | 9,915 | 2,264 | 3,739 | 3,672 | 3,225 |
| Working Expenses per acre | 1·13 | 0·74 | 0·39 | 1·46 | 0·64 |
| **RAVI INUNDATION CANALS.** | Average for two years | | | | |
| Extensions and Improvements | ... | ... | ... | ... | ... |
| Maintenance and Repairs | 9,821 | 17,057 | 8,422 | 8,773 | 11,417 |
| Other heads | 9,964 | 11,743 | 13,290 | 15,459 | 13,498 |
| Total | 20,285 | 28,800 | 21,712 | 24,232 | 24,915 |
| Indirect Charges | 1,301 | 1,630 | 1,835 | 2,153 | 1,872 |
| Total Working Expenses | 21,586 | 30,430 | 23,547 | 26,385 | 26,787 |
| Working Expenses per acre | 1·3 | 0·94 | 0·84 | 2·43 | 1·13 |
| **GRAND TOTAL.** | | | | | |
| *Working Expenses.* | | | | | |
| Imperial | 9,53,278 | 9,18,307 | 9,05,188 | 9,42,828 | 9,22,107 |
| Ghaggar Canals, Imperial | 35,172 | 29,475 | 30,323 | 29,764 | 29,854 |
| Ditto, Bikaner | 9,915 | 2,264 | 3,739 | 3,672 | 3,225 |
| Shahpur Provincial Canals | 30,837 | 33,098 | 24,854 | 38,904 | 32,285 |
| | Average for two years. | | | | |
| Ravi Provincial Canals | 21,586 | 30,430 | 23,547 | 26,385 | 26,787 |

# APPENDIX 22.

## MINOR IRRIGATION WORKS.

### NET REVENUE REALIZED.

| Canals. | Net revenue. | | | | |
|---|---|---|---|---|---|
| | Average of the triennial period ending March 1905. | *For the year* | | | Average of the triennial period ending March 1908. |
| | | 1905 06 | 1906-07. | 1907-08. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Rs. | Rs. | Rs. | Rs. | Rs. |
| **SHAHPUR IMPERIAL CANALS.** | | | | | |
| Imperial ... ... ... ... | 52,433 | 17,537 | 39,818 | 8,668 | 22,007 |
| Percentage on Capital ... ... | 24·28 | 8·12 | 18·44 | 4·01 | 10·19 |
| **SHAHPUR PROVINCIAL CANALS.** | | | | | |
| Provincial ... ... ... | 26,118 | 13,914 | 25,463 | -2,141 | 12,412 |
| **LOWER SUTLEJ INUNDATION CANALS.** | | | | | |
| Imperial ... ... ... ... | 1,16,368 | 1,51,110 | 2,65,838 | 2,41,738 | 2,19,562 |
| **CHENAB INUNDATION CANALS.** | | | | | |
| Imperial ... ... ... ... | 48,245 | 32,025 | 1,04,326 | 1,79,176 | 1,05,176 |
| **MUZAFFARGARH INUNDATION CANALS.** | | | | | |
| Imperial ... ... ... ... | 2,80,784 | 2,55,106 | 2,65,235 | 1,97,521 | 2,39,283 |
| **GHAGGAR INUNDATION CANALS.** | | | | | |
| Imperial ... ... ... ... | -31,657 | -25,591 | -23,386 | -15,604 | -21,527 |
| Percentage on Capital ... ... | -9·22 | -7·45 | -6·81 | -4·55 | -6·27 |
| Bikaner State ... ... ... | -9,915 | -2,264 | -3,535 | -3,654 | -3,151 |
| Percentage on Capital ... ... | -3·48 | -796 | -1·24 | -1·29 | 1·11 |
| **RAVI INUNDATION CANALS.** | | | | | |
| Provincial ... ... ... | Average for two year -6,516 | -8,996 | 10,164 | 3,529 | 1,566 |
| **GRAND TOTAL.** | | | | | |
| *Net Revenue.* | | | | | |
| Imperial ... ... ... ... | 4,97,830 | 4,55,778 | 6,75,217 | 6,27,103 | 5,86,033 |
| Ghaggar Canal, Imperial ... ... | -31,657 | -25,591 | -23,386 | -15,604 | -21,527 |
| Ditto Bikaner ... ... | -9,915 | -2,264 | -3,535 | -3,654 | -3,151 |
| Shahpur Provincial Canals ... ... | 26,118 | 13,914 | 25,463 | -2,141 | 12,412 |
| Ravi Provincial Canals ... ... | Average for two years. -6,516 | -8,996 | 10,164 | 3,529 | 1,566 |

# APPENDIX 23.

## MINOR IRRIGATION WORKS.

### ZARI-I-NAGHA REALIZATIONS AND EXPENDITURE.

| | 1905-06. | 1906-07. | 1907-08. |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| | Rs. | Rs. | Rs. |
| **LOWER SUTLEJ INUNDATION CANALS.** | | | |
| Opening balance ... ... ... ... ... | 10,923 | 4,132 | ... |
| COLLECTIONS. | | | |
| Zari-i-Nagha Fines, etc. ... ... ... ... | ... | ... | ... |
| Miscellaneous Revenue... ... ... ... ... | ... | ... | ... |
| Total Collections ... | ... | ... | ... |
| EXPENDITURE. | | | |
| Extensions and Improvements ... ... ... ... | 1,835 | ... | ... |
| Maintenance and Repairs ... ... ... ... | 4,956 | 4,132 | ... |
| Collection Fees ... ... ... ... ... | ... | ... | ... |
| Total Expenditure ... | 6,791 | 4,132 | ... |
| Profit or Loss on year's working ... | **-6,791** | **-4,132** | ... |
| Closing balance ... | 4,132 | ... | ... |
| **CHENAB INUNDATION CANALS.** | | | |
| Opening balance ... ... ... ... ... | ... | ... | ... |
| COLLECTIONS. | | | |
| Zari-i-Nagha Fines, etc.... ... ... ... ... | ... | ... | ... |
| Miscellaneous Revenue ... ... ... ... ... | ... | ... | ... |
| Total Collections ... | ... | ... | ... |
| EXPENDITURE. | | | |
| Extensions and Improvements ... ... ... ... | ... | ... | ... |
| Maintenance and Repairs ... ... ... ... | ... | ... | ... |
| Collection Fees ... ... ... ... ... | ... | ... | ... |
| Total Expenditure ... | ... | ... | ... |
| Profit or Loss on year's working ... | ... | ... | ... |
| Closing balance ... | ... | ... | ... |
| **MUZAFARGARH INUNDATION CANALS.** | | | |
| Opening balance ... ... ... ... ... | 48,278 | 33,281 | 23,384 |
| COLLECTIONS. | | | |
| Zari-i-Nagha Fines, etc.... ... ... ... ... | ... | ... | ... |
| Miscellaneous Revenue ... ... ... ... ... | ... | ... | ... |
| Total Collections ... | ... | ... | ... |
| EXPENDITURE. | | | |
| Extensions and Improvements ... ... ... ... | 9,232 | 3,122 | 2,171 |
| Maintenance and Repairs ... ... ... ... | 5,765 | 6,775 | 21,213 |
| Compensation ... ... ... ... ... | ... | ... | ... |
| Suspense Account ... ... ... ... ... | ... | ... | ... |
| Collection Fees ... ... ... ... ... | ... | ... | ... |
| Total Expenditure ... | 14,997 | 9,897 | 23,384 |
| Profit or Loss on year's working ... | **-14,997** | **-9,897** | **-23,384** |
| Closing balance ... | 33,281 | 23,384 | ... |

# APPENDIX 24.

## MINOR IRRIGATION WORKS.

BALANCES OF OCCUPIERS' RATES OUTSTANDING AT THE END OF EACH YEAR.

| Canals. | | 1905-06. | 1906-07. | 1907-08. |
|---|---|---|---|---|
| 1 | | 2 | 3 | 4 |
| | | Rs. | Rs. | Rs. |
| SHAHPUR (IMPERIAL) CANALS ... ... | | 4,877 | 1,286 | 209 |
| SHAHPUR (PROVINCIAL) CANALS ... ... | | 1,422 | 775 | 512 |
| LOWER SUTLEJ INUNDATION CANALS ... | | 1,013 | 941 | 444 |
| CHENAB INUNDATION CANALS ... ... | | 1,715 | 1,396 | 153 |
| MUZAFFARGARH INUNDATION CANALS ... | | 1,363 | 366 | 181 |
| GHAGGAR INUNDATION CANALS ... ... | | ... | 25 | 1,280 |
| RAVI (PROVINCIAL) CANALS ... ... ... | | 1,968 | 66 | 272 |
| RANGOI CANALS ... ... ... ... | | ... | 139 | 7 |
| Total ... | Imperial ... | 8,968 | 4,153 | 2,274 |
| | Provincial ... | 3,390 | 841 | 784 |

# APPENDIX 25.

## MINOR IRRIGATION WORKS.

### REVENUE ASSESSMENTS (DIRECT AND INDIRECT).

| PARTICULARS. | ASSESSMENTS. Average of the triennial period ending March 1905. | For the year 1905-06. | For the year 1906-07. | For the year 1907-08. | Average of the triennial period ending March 1908. |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Rs. | Rs. | Rs. | Rs. | Rs. |
| **SHAHPUR (IMPERIAL) CANALS.** | | | | | |
| Occupiers' Rates ... ... ... | 77,006 | 72,504 | 47,335 | 42,338 | 54,059 |
| Miscellaneous Revenue ... | 192 | 1,038 | 876 | 3,629 | 1,848 |
| Total ... | 77,198 | 73,542 | 48,211 | 45,967 | 55,907 |
| Indirect ... ... ... ... | 15,228 | 14,351 | 9,441 | 8,475 | 10,755 |
| Total Assessments ... | 92,426 | 87,893 | 57,652 | 54,442 | 66,662 |
| **SHAHPUR (PROVINCIAL) CANALS.** | | | | | |
| Occupiers' Rates ... ... ... | 46,622 | 43,413 | 33,634 | 21,180 | 32,749 |
| Miscellaneous Revenue ... ... | 667 | 270 | 1,601 | 1,417 | 1,096 |
| Total ... ... | 47,289 | 43,683 | 35,255 | 22,597 | 33,845 |
| Indirect ... ... ... ... | 9,434 | 8,887 | 6,767 | 4,413 | 6,689 |
| Total Assessments ... | 56,723 | 52,570 | 42,022 | 27,010 | 40,534 |
| **LOWER SUTLEJ INUNDTAION CANALS.** | | | | | |
| Occupiers' Rates ... ... | 1,48,713 | 2,27,667 | 2,48,545 | 1,63,080 | 2,13,097 |
| Miscellaneous Revenue ... ... | 88,113 | 8,984 | 7,231 | 4,061 | 6,759 |
| Total ... | 2,36,826 | 2,36,651 | 2,55,776 | 1,67,141 | 2,19,856 |
| Indirect ... ... ... ... | 2,11,850 | 2,09,421 | 2,44,882 | 2,57,657 | 2,37,320 |
| Total Assessments ... | 4,48,676 | 4,46,072 | 5,00,658 | 4,24,798 | 4,57,176 |
| **CHENAB INUNDATION CANALS.** | | | | | |
| Occupiers' Rates ... ... ... | 1,47,333 | 1,54,696 | 1,91,448 | 1,43,359 | 1,63,168 |
| Miscellaneous Revenue ... ... | 10,108 | 5,408 | 6,721 | 4,257 | 5,462 |
| Total ... | 1,57,441 | 1,60,104 | 1,98,169 | 1,47,616 | 1,68,630 |
| Indirect ... ... ... ... | 1,96,588 | 1,78,403 | 2,35,162 | 2,37,004 | 2,16,856 |
| Total Assessments ... | 3,54,029 | 3,38,507 | 4,33,331 | 3,84,620 | 3,85,486 |
| **MUZAFFARGARH INUNDATION CANALS.** | | | | | |
| Occupiers' Rates ... ... ... | 1,70,962 | 2,32,980 | 2,31,271 | 1,69,511 | 2,11,254 |
| Miscellaneous Revenue ... ... | 85,711 | 24,161 | 13,066 | 35,655 | 24,294 |
| Total ... | 2,56,673 | 2,57,141 | 2,44,337 | 2,05,166 | 2,35,548 |
| Indirect ... ... ... ... | 3,43,914 | 3,49,201 | 3,52,265 | 3,42,779 | 3,48,082 |
| Total Assessments ... | 6,00,587 | 6,06,342 | 5,96,602 | 5,47,945 | 5,83,630 |
| **RAVI CANALS (PROVINCIAL).** | Average of two years. | | | | |
| Occupiers' Rates ... ... ... | 8,074 | 15,927 | 14,050 | 5,423 | 11,800 |
| Miscellaneous Revenue ... ... | ... | 36 | 8 | 9 | 18 |
| Total ... | 8,074 | 15,963 | 14,058 | 5,432 | 11,818 |
| Indirect ... ... ... ... | 21,919 | 15,377 | 25,000 | 19,785 | 20,054 |
| Total Assessments ... | 19,034 | 31,340 | 39,058 | 25,217 | 31,872 |
| **GRAND TOTAL.** | | | | | |
| Imperial — Direct ... ... ... | 7,28,138 | 7,27,438 | 7,46,493 | 5,65,890 | 6,79,940 |
| Imperial — Indirect ... ... | 7,67,580 | 7,51,376 | 8,41,750 | 8,45,915 | 8,13,014 |
| Provincial — Direct ... ... ... | 47,289 | 59,646 | 49,313 | 28,029 | 45,663 |
| Provincial — Indirect ... ... ... | 9,434 | 24,264 | 31,767 | 24,198 | 26,743 |

# APPENDIX 26.

## MINOR IRRIGATION WORKS.

### AVERAGE OCCUPIER'S RATE PER ACRE.

| Particulars. | Average rate per acre. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Average of the triennial period ending March 1905.* | | *For the year* | | | | | | *Average of the triennial period ending March 1908.* | |
| | | | 1905-06. | | 1906-07. | | 1907-08. | | | |
| | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif | Rabi. | Kharif. | Rabi |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | Rs | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| **SHAHPUR (IMPERIAL) CANALS.** | | | | | | | | | | |
| Occupiers' Rates ... ... ... | 2·33 | 2·50 | 2·25 | 2·50 | 2·11 | 2·50 | 2·26 | 2·50 | 2·21 | 2·50 |
| **SHAHPUR (PROVINCIAL) CANALS.** | | | | | | | | | | |
| Occupiers' Rates ... ... ... | 1·44 | 2·32 | 1·39 | 2·28 | 1·31 | 2·36 | 1·15 | 2·19 | 1·29 | 2·29 |
| **LOWER SUTLEJ INUNDATION CANALS.** | | | | | | | | | | |
| Occupiers' Rates ... ... ... | 1·46 | 0·84 | 1·47 | 0·85 | 1·49 | 0·87 | 1·47 | 0·92 | 1·48 | 0·87 |
| **CHENAB INUNDATION CANALS.** | | | | | | | | | | |
| Occupiers' Rates ... ... ... | 1·58 | 0·92 | 1·55 | 0·88 | 1·58 | 0·89 | 1·58 | 0·92 | 1·57 | 0·90 |
| **MUZAFFARGARH INUNDATION CANALS.** | | | | | | | | | | |
| Occupiers' Rates ... ... ... | 1·12 | 0·54 | 1·10 | 0·55 | 1·14 | 0·55 | 1·0[illegible] | 0·55 | 1·11 | 0·55 |
| **RAVI (PROVINCIAL) CANALS.** | | | | | | | | | | |
| Occupiers' Rates ... ... ... | ... | ... | 0·48 | 0·50 | 0·50 | 0·50 | 0·50 | 0·50 | 0·49 | 0·50 |

# APPENDIX 27.

## MINOR IRRIGATION WORKS.

## SHAHPUR (IMPERIAL) CANALS.

### STATEMENT SHOWING AREA REMITTED.

| Cause of remission. | 1905-06. | | | | | | 1906-07. | | | | | | 1907-08. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | |
| | Total area assessed. | Area remitted. | Percentage. | Total area assessed. | Area remitted. | Percentage. | Total area assessed. | Area remitted. | Percentage. | Total area assessed. | Area remitted. | Percentage. | Total area assessed. | Area remitted. | Percentage. | Total area assessed. | Area remitted. | Percentage. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| OCCUPIERS' RATES. | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | |
| 1. Wrong measurement ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 3. Under Tenancy Rules ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 4. Short supply ... ... | ... | 1,678 | ... | ... | ... | ... | ... | ... | ... | ... | 2,216 | ... | ... | ... | ... | ... | ... | ... |
| 5. Flooding ... ... | ... | 165 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 6 Hail, &c. ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 8. Other Insects (Boll-worm) ... | ... | 5,455 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1,121 | ... | ... | ... | ... |
| 9. Special charges (plague remission). | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 13,268 | ... | ... | ... | ... | ... | ... | ... |
| 10. Miscellaneous ... ... | ... | ... | ... | ... | 1,581 | ... | ... | 498 | ... | ... | ... | ... | ... | ... | ... | ... | 3,635 | ... |
| Total ... | 7,267 | 7,298 | 100·42 | 22,459 | 1,581 | 7·04 | 4,815 | 498 | 10·34 | 14,870 | 15,484 | 104·13 | 5,198 | 1,121 | 21·56 | 12,237 | 3,635 | 29·79 |

# APPENDIX 27 A.

## MINOR IRRIGATION WORKS.

## SHAHPUR (PROVINCIAL) CANALS.

### STATEMENT SHOWING AREA REMITTED.

| Cause of remission. | 1905-06. | | | | | | 1906-07. | | | | | | 1907-08. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | |
| | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| OCCUPIERS' RATES. | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | |
| 1. Wrong measurement ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 3. Under Tenancy Rules (Free Grants). | ... | 912 | ... | ... | 380 | ... | ... | 1,003 | ... | ... | 157 | ... | ... | 657 | ... | ... | 270 | ... |
| 4. Short supply ... ... | ... | 502 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1,588 | ... | ... | 1,222 | ... |
| 5. Flooding ... ... | ... | 360 | ... | ... | 15 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 14 | ... |
| 6. Hail or calamities ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 7. Locusts ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 8. Other insects or blight ... | ... | 1,097 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 9. Special charges ... ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4,153 | ... | ... | ... | ... | ... | ... | ... |
| 10. Miscellaneous ... ... | ... | 65 | ... | ... | 1,218 | ... | ... | 1,116 | ... | ... | 1,448 | ... | ... | ... | ... | ... | 134 | ... |
| Total ... | 15,170 | (a)2,936 | 19·35 | 9,758 | (a)1,613 | 16 53 | 12,830 | (a)2,119 | 16·53 | 7,129 | (a)5,758 | 80·77 | 10,932 | (a)2,245 | 20·54 | 3,943 | (a)1,640 | 41·59 |

(a) Is made up of area remitted under Tenancy Rules and area remitted for failed crops, which latter only is reported in the annual revenue reports.

Note.—Percentage remitted has been worked out on the total area assessed as in the past.

# APPENDIX 27 B.

## MINOR IRRIGATION WORKS.

## RAVI (PROVINCIAL) CANALS.

STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED.

| Cause of remission | 1905-06. | | | | | | 1906-07. | | | | | | 1907-08. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | | Kharif. | | | Rabi. | | |
| | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. | Total area assessed. | Area remitted. | Percentage remitted. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| **OCCUPIERS' RATES.** | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | | Acres. | Acres. | |
| 1. Wrong assessment | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 2. Escape irrigation | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 3. Under Tenancy Rules | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 4. Short supply | ... | 18 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 563 | ... | ... | 4·21 | ... |
| 5. Flooding | ... | ... | ... | ... | ... | ... | ... | 13 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 6. Hail or other calamities | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 7. Locusts | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 8. Other insects or blight | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 50 | ... | ... | ... | ... |
| 9. Seeds not germinating | ... | ... | ... | ... | 4 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 10. Special charges | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 11. Miscellaneous | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 33 | ... | ... | ... | ... | ... | ... | ... |
| TOTAL | 14,821 | 18 | 0·12 | 17,492 | 4 | 0·02 | 6,890 | 13 | 0·19 | 21,070 | 33 | 0·15 | 7,603 | 613 | 8·06 | 3,243 | 4·21 | 0·13 |

NOTE.—Remissions given after despatch of Demand Statements and remissions given by change of class do not appear in this statement.

# APPENDIX 28.

## MINOR IRRIGATION WORKS.

### AREAS IRRIGATED, SUPPLY AND DUTY.

| Particulars. | Area irrigated. | | | Average number of days canal was in flow. | Mean Discharge. | Duty on total area irrigated. |
|---|---|---|---|---|---|---|
| | Kharif. | Rabi. | Total. | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | Acres. | Acres. | Acres. | Days. | Cusecs. | Acres. |
| **SHAHPUR (IMPERIAL) CANALS.** | | | | | | |
| 1905-06 | 7,267 | 22,459 | 29,726 | 139 | 410 | 73 |
| 1906-07 | 4,815 | 14,870 | 19,685 | 120 | 363 | 54 |
| 1907-08 | 5,198 | 12,237 | 17,435 | 86 | 413 | 42 |
| **SHAHPUR (PROVINCIAL) CANALS.** | | | | | | |
| 1905-06 | 15,170 | 9,758 | 24,928 | 133 | 369 | 68 |
| 1906-07 | 12,830 | 7,129 | 19,959 | 138 | 317 | 63 |
| 1907-08 | 10,932 | 3,943 | 14,875 | 141 | 236 | 63 |
| **LOWER SUTLEJ INUNDATION CANALS.** | | | | | | |
| 1905-06 | 79,014 | 131,097 | 210,111 | 202 | 2,415 | 87 |
| 1906-07 | 82,249 | 144,792 | 227,041 | 184 | 2,750 | 83 |
| 1907-08 | 70,343 | 64 630 | 134,973 | 172 | 1,849 | 73 |
| **CHENAB INUNDATION CANALS.** | | | | | | |
| 1905-06 | 47,041 | 91,596 | 138,637 | 129 | 2,476 | 56 |
| 1906-07 | 59,295 | 109,914 | 169,209 | 144 | 3,076 | 55 |
| 1907-08 | 62,599 | 48,100 | 110,699 | 114 | 2,460 | 45 |
| **MUZAFFARGARH INUNDATION CANALS.** | | | | | | |
| 1905-06 | 124 093 | 172,108 | 296,201 | 151 | 2,794 | 106 |
| 1906-07 | 115,315 | 181,296 | 296,611 | 150 | 3,224 | 92 |
| 1907-08 | 90,622 | 131,533 | 222,155 | 145 | 2,896 | 106 |
| **GHAGGAR INUNDATION CANALS. (BRITISH AND BIKANER).** | | | | | | |
| 1905-06 | 10,534 | 6,088 | 16,622 | 70 | 198 | 84 |
| 1906-07 | 14,094 | 17,171 | 31,265 | 93 | 654 | 48 |
| 1907-08 | 9,533 | 2,586 | (a) 12,119 | 52 | 357 | 34 |
| **RAVI (PROVINCIAL) CANALS.** | | | | | | |
| 1905-06 | 14,821 | 17,492 | 32,313 | 150 | 315 | 103 |
| 1906-07 | 6,890 | 21,070 | 27,960 | 104 | 351 | 80 |
| 1907-08 | 7,603 | 3,243 | 10,846 | 74 | 291 | 37 |

(a) Total area including irrigation in British territory subject to occupier's rate, also area assessed by the Civil Department, and area irrigated in Bikaner State.

# APPENDIX 29.

## MINOR IRRIGATION WORKS.

### LENGTH OF CHANNELS IN OPERATION.

| Particulars. | Length of channels in miles. | | | | |
|---|---|---|---|---|---|
| | At end of March 1905. | *Increase or decrease during* | | | Length at end of March 1908. |
| | | 1905-06. | 1906-07. | 1907 08. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Miles. | Miles. | Miles. | Miles. | Miles. |
| **SHAHPUR (IMPERIAL) CANALS.** | | | | | |
| Main Canal and Branches ... ... | 72 | ... | ... | −6 | 66 |
| Distributaries (Major and Minor) ... ... | 80 | ... | ... | −8 | 72 |
| **SHAHPUR (PROVINCIAL) CANALS.** | | | | | |
| Main Canal and Branches ... ... | 78 | −16 | ... | ... | 62 |
| Distributaries (Major and Minor) ... ... | 38 | −1 | ... | ... | 37 |
| **LOWER SUTLEJ INUNDATION CANALS.** | | | | | |
| Main Canal and Branches ... ... | 394 | + 2 | ... | + 1 | 397 |
| Distributaries (Major and Minor) ... ... | 328 | −3 | ... | ... | 325 |
| **CHENAB INUNDATION CANALS.** | | | | | |
| Main Canal and Branches ... ... | 255 | + 1 | −4 | + 10 | 262 |
| Distributaries (Major and Minor) ... ... | 46 | ... | ... | + 15 | 61 |
| **MUZAFFARGARH INUNDATION CANALS.** | | | | | |
| Main Canal and Branches ... ... | 873 | −12 | −3 | −221 | 637 |
| Distributaries (Major and Minor) ... ... | 476 | −16 | −5 | + 177 | 632 |
| Drainage Channels (Escapes) ... ... | 10 | ... | + 3 | − 1 | 12 |
| **GHAGGAR INUNDATION CANALS. (BRITISH).** | | | | | |
| Main Canal and Branches ... ... | 44 | ... | ... | ... | 44 |
| Distributaries (Major and Minor) ... ... | 24 | ... | ... | ... | 24 |
| Drainage Channels ... ... ... | 10 | ... | ... | ... | 10 |
| **BIKANER STATE.** | | | | | |
| Main Canal and Branches ... ... | 51 | ... | ... | ... | 51 |
| **RAVI (PROVINCIAL) CANALS.** | | | | | |
| Main Canal and Branches ... ... | 82 | +5 | ... | − 1 | 86 |
| Distributaries (Major and Minor) ... ... | 38 | ... | ... | ... | 38 |
| GRAND TOTAL (*a*) | 2,899 | −40 | −9 | −34 | 2,816 |

(*a*) Excludes mileage of the Ravi (Provincial) Canals.

# APPEN

## MINOR IRRIGA

## SHAHPUR (IMPER

STATEMENT SHOWING THE

| Serial No. | Name of Canal. | Length in miles on 31st March 1908. | Culturable commanded area at settlement (acres.) | Average of triennial period ending 31st March 1905. | | | Area irrigated, in | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | For the | | | | | |
| | | | | | | | 1905-06. | | | 1906-07. | | |
| | | | | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. |
| 1 | 2 | 5 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 1 | Eastern Station Canal. | 44 | 62,954 | 3,395 | 7,136 | 10,531 | 2,630 | 8,583 | 11,213 | 2,007 | 4,502 | 6,509 |
| 2 | Western Station Canal. | 33 | | 2,085 | 4,173 | 6,258 | 1,787 | 5,514 | 7,301 | 1,291 | 3,093 | 4,384 |
| 3 | Sahiwal Canal ... | 61 | | 5,907 | 8,701 | 14,608 | 2,850 | 8,362 | 11,212 | 1,517 | 7,275 | 8,792 |
| | Total ... | 138 | 62,954 | 11,387 | 20,010 | 31,397 | 7,267 | 22,459 | 29,726 | 4,815 | 14,870 | 19,685 |
| | Failed or damaged crops (Kharaba). | ... | ... | 1,293 | 2,096 | 3,389 | 7,298 | 1,581 | 8,879 | 498 | 15,484 | 15,982 |
| | Grand Total ... | ... | ... | 12,680 | 22,106 | 34,786 | 14,565 | 24,040 | 38,605 | 5,313 | 30,354 | 35,667 |

DIX 30.

TION WORKS.

IAL) CANALS.

WORKING OF THE CANALS.

| ACRES. | | | Average of the triennial period ending 31st March 1908. | | | Dates of opening and closing. | | | | | | Average of 3 years ending 31st March 1908. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| year | | | | | | 1905-06. | | 1906-07. | | 1907-08. | | | |
| 1907-08. | | | | | | | | | | | | | |
| Kharif | Rabi. | Total. | Kharif. | Rabi. | Total. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 2,178 | 4,201 | 6,379 | 2,272 | 5,762 | 8,034 | 28th March 1905. | 1st Sept. 1905. | 13th May 1906. | 19th Septr. 1906 | 30th May 1907. | 28th Augt. 1907. | 24th April 1907. | 16th Septr. 1907. |
| 766 | 2,339 | 3,105 | 1,281 | 3,649 | 4,930 | 28th March 1905. | 31st Augt. 1905. | 14th May 1906. | 19th Septr. 1906. | 17th May 1907. | 27th Augt. 1907. | 24th April 1907. | 26th Augt. 1907. |
| 2,254 | 5,697 | 7,951 | 2,207 | 7,111 | 9,318 | 30th March 1905. | 30th Augt. 1905. | 15th May 1906. | 21st Septr. 1906. | 28th May 1907. | 22nd Augt. 1907. | 24th April 1907. | 24th Augt. 1907. |
| 5,193 | 12,237 | 17,435 | 5,760 | 16,522 | 22,282 | | | | | | | | |
| 1,121 | 3,63[illegible] | 4,756 | 2,972 | 6,900 | 9,872 | | | | | | | | |
| 6,319 | 15,872 | 22,191 | 8,732 | 23,422 | 32,154 | | | | | | | | |

# APPEN

## MINOR IRRIGA

## SHAHPUR (PRO

STATEMENT SHOWING THE

| Serial No. | Names of Canals. | Length in miles on 31st March 1908. | Area at settlement. | Average of the triennial period ending 31st March 1905. | | | Area irrigated, in | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | *For the* | | | | | |
| | | | | | | | 1905-06. | | | 1906-07. | | |
| | | | | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | | Miles. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 1 | Raniwah Canal ... | 81 | 43,300 | 10,809 | 8,212 | 19,021 | 10,103 | 8,173 | 18,276 | 8,075 | 6,250 | 14,325 |
| 2 | Corbynwah Canal ... | 18 | 9,955 | 5,294 | 1,102 | 6,396 | 4,744 | 1,585 | 6,329 | 4,755 | 879 | 5,634 |
| 3 | Pind Dadan Khan ... | ... | ... | 344 | 320 | 664 | 323 | ... | 323 | ... | ... | ... |
| | Total ... | 99 | *53,255 | 16,447 | 9,634 | 26,081 | 15,170 | 9,758 | 24,928 | 12,830 | 7,129 | 19,959 |
| | Failed or damaged crops (kharaba). | ... | ... | 575 | 818 | 1,393 | 2,024 | 1,233 | 3,257 | 1,116 | 5,601 | 6,717 |
| | Grand Total ... | 99 | 53,255 | 17,022 | 10,452 | 27,474 | 17,194 | 10,991 | 28,185 | 13,946 | 12,730 | 26,676 |

* Culturable area com

DIX 30 A.

TION WORKS.

VINCIAL) CANALS.

WORKING OF THE CANALS.

| ...CRES. ...ear 1907-08. | | | AVERAGE OF THE TRIENNIAL PERIOD ENDING 31ST MARCH 1908. | | | DATES OF OPENING AND CLOSING. | | | | | | AVERAGE OF THE 6 LAST YEARS ENDING 31ST MARCH 1908. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1905-06. | | 1906-07. | | 1907-08. | | | |
| Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | | | | | | | | |
| 6,771 | 3,091 | 9,862 | 8,316 | 5,838 | 14,154 | 28th March 1905. | 1st September 1905. | 25th April 1906. | 21st September 1906. | 11th April 1907. | 6th September 1907. | | |
| 4,161 | 852 | 5,013 | 4,553 | 1,105 | 5,658 | 1st April 1905. | 1st September 1905. | 8th May 1906. | 13th September 1906. | 10th April 1907. | 8th September 1907. | | |
| ... | ... | ... | 108 | ... | 108 | 14th April 1905. | 30th August 1905. | ... | ... | ... | .. | | |
| 10,932 | 3,943 | 14,875 | 12,977 | 6,943 | 19,920 | | | | | | | | |
| 1,588 | 1,370 | 2,958 | 1,576 | 2,735 | 4,311 | | | | | | | | |
| 12,520 | 5,313 | 17,833 | 14,553 | 9,678 | 24,231 | | | | | | | | |

manded by canals.

# APPEN

## MINOR IRRI

## LOWER SUTLEJ INUN

STATEMENT SHOWING THE

| Serial No. | Names of Canals. | Length in miles on 31st March 1908. | Area at settlement. | Average of the triennial period ending 31st March 1905. | | | Area irrigated, in | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 1905-06. | | | 1906 07. | | |
| | | | | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | | Miles. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 1 | Hajiwah Canal ... | 39·29 | ... | 7,279 | 14,841 | 22,120 | 5,353 | 18,792 | 24,145 | 5,678 | 24,418 | 30,096 |
| 2 | Mailsi Canal ... | 284·81 | 93,212 | 39,999 | 54,050 | 94,049 | 44,422 | 74,031 | 118,453 | 44,077 | 63,822 | 107,899 |
| 3 | Mohamedwah Sardarwah Canals. | 232·44 | 40,706 | 15,412 | 23,872 | 39,284 | 16,733 | 20,047 | 36,780 | 19,616 | 36,017 | 55,633 |
| 4 | Bahawalwah Lodhran Canal. | 165·81 | 31,168 | 10,674 | 15,860 | 26,534 | 12,506 | 18,227 | 30,733 | 12,878 | 20,535 | 33,413 |
| | Total ... | 722·35 | 165,086 | 73,364 | 108,623 | 181,987 | 79,014 | 131,097 | 210,111 | 82,249 | 144,792 | 227,041 |
| | Failed or damaged crops (kharaba). | ... | ... | 33,331 | 14,330 | 47,661 | 68,484 | 10,606 | 79,090 | 35,315 | 19,878 | 55,193 |
| | Grand Total ... | 722·35 | 165,086 | 106,695 | 122,953 | 229,648 | 147,498 | 141,703 | 289,201 | 117,564 | 164,670 | 282,234 |

)IX 30 B.

GATION WORKS.

)ATION CANALS DIVISION.

VORKING OF THE CANALS.

| ICRES. | | | AVERAGE OF THE TRIENNIAL PERIOD ENDING 31ST MARCH 1908. | | | DATES OF OPENING AND CLOSING. | | | | | | AVERAGE OF 10 YEARS ENDING 31ST MARCH 1908. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1907-08. | | | | | | 1905-06. | | 1906-07. | | 1907-08. | | | |
| Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | | | | | | | | |
| 7,344 | 14,462 | 21,806 | 6,125 | 19,224 | 25,349 | 9th May | 18th October. | 16th May | 30th October. | A. N. 15th May | A. N. 19th October. | 11th May | 11th October. |
| 31,777 | 25,289 | 57,066 | 40,092 | 54,381 | 91,473 | 19th April | 6th December. | 18th April | 3rd November. | F. N. 24th April | A. N. 26th October. | 23rd April | 3rd November. |
| 20,588 | 13,995 | 34,583 | 18,979 | 23,353 | 42,332 | 17th April | 9th December. | 17th April | 17th November. | F. N. 1st May | A. N. 26th October. | 7th May | 4th November. |
| 10,634 | 10,884 | 21,518 | 12,006 | 16,549 | 28,555 | 16th April | 14th October.. | 18th April | 25th September. | A. N. 29th April | 11th October. | 5th May | 9th October. |
| 70,343 | 64,630 | 134,973 | 77,202 | 113,507 | 190,709 | | | | | | | | |
| 55,349 | 16,887 | 72,236 | 53,049 | 15,790 | 68,839 | | | | | | | | |
| 125,692 | 81,517 | 207,209 | 130,251 | 129,297 | 259,548 | | | | | | | | |

# APPE

## MINOR IRRIGA

## CHENAB INUN

### STATEMENT SHOWING THE

| Serial No. | Names of Canals. | Length in miles on 31st March 1908. | Area at settlement. | Average of the triennial period ending March 1905. | | | Area irrigated, in | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | For the | | | | | |
| | | | | | | | 1905-06. | | | 1906-07. | | |
| | | | | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | | Miles. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 1 | Matithal with branches ... | 44·70 | 98,243 | 1,315 | 1,213 | 2,558 | 582 | 1,958 | 2,520 | 2,125 | 8,171 | 10,296 |
| 2 | Daurana Langana... | 81·23 | | 12,779 | 9,366 | 22,145 | 11,906 | 17,044 | 28,950 | 15,327 | 22,886 | 38,213 |
| 3 | Wali Mohamed ... | 69·80 | | 17,073 | 13,121 | 30,194 | 13,506 | 21,231 | 34,737 | 16,295 | 25,525 | 41,820 |
| 4 | Sikandrabad ... | 48·50 | | 14,519 | 15,258 | 29,777 | 10,957 | 23,077 | 34,034 | 13,276 | 24,247 | 37,523 |
| 5 | Gajjuhatta ... | 60·05 | 33,951 | 11,061 | 15,211 | 26,272 | 9,012 | 21,965 | 30,977 | 10,544 | 22,331 | 32,875 |
| 6 | Panjani ... | | 2,041 | 601 | 1,071 | 1,672 | | | | | | |
| 7 | Sikandarwah ... | 18·96 | 5,189 | 1,115 | 3,996 | 5,111 | 1,078 | 6,341 | 7,419 | 1,728 | 6,754 | 8,482 |
| 8 | Belochanwah ... | | 1,453 | | | | | | | | | |
| | Total ... | 323·24 | 140,877 | 58,463 | 59,266 | 117,729 | 47,041 | 91,596 | 138,637 | 59,295 | 109,914 | 169,209 |
| | Failed or damaged crops (Kharaba) | ... | ... | 25,587 | 8,675 | 34,262 | 50,249 | 4,931 | 55,180 | 28,559 | 9,742 | 38,301 |
| | Grand Total ... | ... | 140,877 | 84,050 | 67,941 | 151,991 | 97,290 | 96,527 | 193,817 | 87,854 | 119,656 | 207,510 |

DIX 30 C

TION WORKS.

**DATION CANALS.**

WORKING OF THE CANALS.

| ACRES. | | | AVERAGE OF THE TRIENNIAL PERIOD ENDING MARCH 1908. | | | DATES OF OPENING AND CLOSING. | | | | | | AVERAGE OF 10 YEARS ENDING 31ST MARCH 1908. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| year 1907-08. | | | | | | 1905-06. | | 1906-07. | | 1907-08. | | | |
| Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | | | | | | | | |
| 1,687 | 2,049 | 3,736 | 1,465 | 4,053 | 5,518 | 8th May | 26th Sept. | 11th May | 26th Sept, | 14th May | 30th Augt. | 7th May | 19th Sept. |
| 14,992 | 10,370 | 25,362 | 14,075 | 16,767 | 30,842 | 6th May | 6th Oct. | 15th May | 12th Oct. | 17th May | 2nd Oct. | 6th May | 6th Oct. |
| 15,409 | 11,444 | 26,853 | 15,070 | 19,400 | 34,470 | 6th May | 12th Oct. | 15th May | 11th Oct. | 17th May | 7th Oct. | 5th May | 4th Oct. |
| 14,603 | 11,477 | 26,080 | 12,945 | 19,600 | 32,545 | 5th May | 12th Oct. | 23rd April | 26th Sept. | 5th May | 14th Sept | 29th April | 1st Oct. |
| 14,065 | 9,769 | 23,834 | 11,207 | 18,021 | 29,228 | 10th May | 14th Oct. | 23rd April | 26th Sept. | 6th May | 14th Sept. | 4th May | 28th Sept. |
| | | | | | | | | | | 3rd May | 30th Augt. | 10th May | 22nd Sept. |
| 1,843 | 2,991 | 4,834 | 1,550 | 5,362 | 6,912 | 15th May | 25th Sept. | 10th May | 29th Oct. | 3rd May | 30th Augt. | 10th May | 22nd Sept. |
| 62,599 | 48,100 | 110,699 | 56,312 | 83,203 | 139,515 | | | | | | | | |
| 34,944 | 12,353 | 47,297 | 37,917 | 9,009 | 46,926 | | | | | | | | |
| 97,543 | 60,453 | 157,996 | 94,229 | 92,212 | 186,441 | | | | | | | | |

# APPEN

## MINOR IRRIGA

## MUZAFFARGARH IN

STATEMENT SHOWING THE

| Serial No. | Names of Canals. | Length in miles on 31st March 1908. | Area at Settlement. | Average of the triennial period ending 31st March 1905. | | | Area irrigated, in | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | *For the* | | | | | |
| | | | | | | | 1905-06. | | | 1906-07. | | |
| | | | | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | | Miles. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 1 | Gharku ... | 73 | 14,448 | 6,379 | 6,204 | 12,583 | 6,922 | 6,354 | 13,276 | 5,605 | 6,861 | 12,466 |
| 2 | Magasson ... | 209 | 44,045 | 16,500 | 21,567 | 38,067 | 18,426 | 26,982 | 45,408 | 17,181 | 29,385 | 46,566 |
| 3 | Maggi ... | 242 | 65,867 | 27,484 | 37,087 | 64,571 | 29,007 | 41,279 | 70,285 | 28,580 | 44,773 | 73,353 |
| 4 | Adil ... | 12 | 11,542 | 4,751 | 5,884 | 10,635 | 4,953 | 5,417 | 10,370 | 4,622 | 6,014 | 10,636 |
| 5 | Ghuttu ... | 186 | 37,974 | 16,832 | 16,204 | 33,036 | 14,330 | 14,889 | 29,219 | 14,488 | 18,044 | 32,532 |
| 6 | Puran ... | 257 | 40,309 | 18,279 | 14,196 | 32,475 | 20,687 | 17,334 | 38,021 | 15,554 | 12,523 | 28,077 |
| 7 | Surab ... | ... | 17,070 | 6,005 | 8,074 | 14,079 | 6,145 | 9,780 | 15,925 | 6,048 | 9,313 | 15,361 |
| 8 | Suleman ... | 87 | 20,735 | 7,716 | 10,759 | 18,475 | 5,516 | 12,671 | 18,187 | 4,536 | 15,107 | 19,643 |
| 9 | Karm ... | 35 | 7,576 | 1,900 | 4,694 | 6,594 | 1,416 | 5,699 | 7,115 | 1,311 | 5,824 | 7,135 |
| 10 | Ganesh ... | 56 | 9,690 | 2,352 | 6,543 | 8,895 | 3,137 | 6,928 | 10,065 | 2,827 | 7,051 | 9,878 |
| 11 | Taliri ... | 85 | 27,344 | 9,552 | 15,329 | 24,881 | 9,792 | 16,158 | 25,950 | 9,480 | 15,791 | 25,271 |
| 12 | Jhangawar ... | 39 | 7,591 | 4,796 | 11,069 | 15,865 | 3,762 | 8,617 | 12,379 | 5,083 | 10,610 | 15,693 |
| 13 | Alli Khalli ... | | 12,260 | | | | | | | | | |
| | Total ... | 1,281 | 316,451 | 122,546 | 157,610 | 280,156 | 124,093 | 172,108 | 296,201 | 115,315 | 181,296 | 296,611 |
| | Failed or damaged crop (kharaba) | ... | ... | 21,246 | 13,061 | 34,307 | 29,047 | 12,812 | 41,859 | 23,771 | 16,109 | 39,880 |
| | Grand Total ... | 1,281 | 316,451 | 143,792 | 170,671 | 314,463 | 153,140 | 184,920 | 338,060 | 139,086 | 197,405 | 336,491 |

DIX 30 D.

TION WORKS.

UNDATION CANALS.

WORKING OF THE CANALS.

| CRES. ear. 1907-08. | | | AVERAGE OF THE TRIENNIAL PERIOD ENDING 31ST MARCH 1908. | | | DATES OF OPENING AND CLOSING. | | | | | | AVERAGE OF 10 YEARS ENDING 31ST MARCH 1908. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1905-06. | | 1906-07. | | 1907-08. | | | |
| Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | | | | | | | | |
| 5,429 | 6,920 | 12,349 | 5,985 | 6,712 | 12,697 | 7th May | 12th Novr. | 24th April | 13th Octr. | 22nd May | 1st Jany. | 2nd May | 28th Novr. |
| 9,745 | 27,218 | 36,963 | 15,118 | 27,862 | 42,980 | 5th May | 11th Novr. | 15th May | 28th Octr. | 15th May | 30th Decr. | 8th April | 28th Novr. |
| 21,842 | 31,721 | 53,563 | 26,477 | 39,258 | 65,735 | 5th May | 8th Octr. | 6th May | 20th Novr. | 11th May | 28th Septr. | 28th April | 31st Octr. |
| 4,321 | 4,474 | 8,795 | 4,632 | 5,302 | 9,934 | 6th May | 1st Octr. | 10th May | 3rd Octr. | 22nd May | 14th Octr. | ... | ... |
| 14,854 | 11,080 | 25,934 | 14,557 | 14,671 | 29,228 | 5th May | 29th Septr. | 10th May | 22nd Septr. | 20th May | 14th Octr. | 4th May | 3rd Octr. |
| 11,430 | 9,079 | 20,509 | 15,890 | 12,979 | 28,869 | 5th May | 31st Octr. | 6th May | 27th Septr. | 18th April | 20th Septr. | 20th April | 28th Octr. |
| 3,864 | 5,799 | 9,663 | 5,352 | 8,297 | 13,649 | 4th May | 13th Octr. | 6th May | 22nd Septr. | 5th May | 15th Septr. | ... | ... |
| 3,867 | 9,676 | 13,543 | 4,640 | 12,485 | 17,125 | 10th May | 29th Septr. | 16th May | 14th Octr. | 11th May | 18th Septr. | 9th May | 23rd Octr. |
| 1,303 | 3,334 | 4,637 | 1,343 | 4,952 | 6,295 | 15th May | 7th Octr. | 22nd May | 1st Octr. | 29th May | 13th Septr | 13th May | 13th Octr. |
| 2,871 | 5,768 | 8,639 | 2,945 | 6,582 | 9,527 | 5th May | 5th Octr. | 8th May | 7th Octr. | 5th May | 7th Octr. | 30th April | 4th Octr. |
| 8,775 | 12,332 | 21,107 | 9,349 | 14,760 | 24,109 | 12th May | 2nd Octr. | 9th May | 6th Octr. | 10th May | 18th Septr. | 30th April | 28th Septr. |
| 2,321 | 4,132 | 6,453 | 3,722 | 7,786 | 11,508 | 10th May | 24th Septr. | 10th May | 28th Septr. | 13th May | 20th Augt. | 10th May | 25th Septr. |
| 90,622 | 131,533 | 222,155 | 110,010 | 161,645 | 271,656 | | | | | | | | |
| 36,032 | 19,050 | 55,082 | 29,617 | 15,990 | 45,607 | | | | | | | | |
| 126,654 | 150,583 | 277,237 | 139,627 | 177,636 | 317,263 | | | | | | | | |

APPEN
MINOR IRRIGA
GHAGGAR

TABLE SHOWING AREAS IRRIGATED BY BRANCHES

| Years. | From British. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Northern Canal.* | | *Southern Canal.* | | *Ellenabad Distributary and Kishanpura Minor.* | | *Low Level Minor.* | | *Total.* | | Total assessed. |
| | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres | Acres. | Acres. | Acres. | Acres. |
| 1902-03 ... ... | 2,599 | 946 | 1,397 | 40 | 15 | 21 | 787 | 602 | 4,798 | 1,609 | 6,407 |
| 1903-04 ... ... | 3,576 | 7,086 | 1,672 | 1,199 | 367 | 325 | 1 106 | 991 | 6,721 | 9,601 | 16,322 |
| 1904-05 ... ... | 5,931 | 1,533 | 2,983 | 285 | 679 | 58 | 1,446 | 433 | 11,039 | 2,309 | 13 348 |
| Triennial average ... | 4,035 | 3,189 | 2,017 | 508 | 354 | 135 | 1,113 | 675 | 7,519 | 4,507 | 12,026 |
| 1905-06 ... ... | 3,455 | 2,192 | 1,732 | 1,099 | 290 | 295 | 1,146 | 264 | 6,624 | 3,849 | 10,473 |
| 1906-07 ... ... | 4,313 | 7,492 | 1,207 | 2,192 | 298 | 568 | 1,099 | 52 | 6,917 | 10,304 | 17.221 |
| 1907-08 ... ... | 3,499 | 636 | 1,130 | 366 | 40 | 50 | 665 | 206 | 5,334 | 1,257 | 6,591 |
| Triennial average ... | 3,756 | 3,440 | 1,356 | 1,219 | 210 | 304 | 97 | 174 | 6,292 | 5,137 | 11,429 |

# DIX 30 E.

## TION WORKS.

## CANALS.

CANALS, AND RIVER IN BRITISH AND BIKANER TERRITORY.

| CANALS. | | | | | | | FROM DIRECT MINORS. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BIKANER. | | | | | | | BRITISH. | | | | | |
| *Northern Canal.* | | *Southern Canal.* | | *Total.* | | | *Kassaban.* | | *Mangoli.* | | *Abboli.* | |
| Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Total assessed. | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 3,016 | 414 | 1,447 | 755 | 4,463 | 1,169 | 5,632 | 1,206 | 11 | 1,474 | 7 | 610 | |
| 3,896 | 3,065 | 1,571 | 1,118 | 5,467 | 4,183 | 9,650 | 1,301 | 841 | 1,150 | 889 | 556 | 5 |
| 6,666 | 634 | 3,663 | 49 | 10,329 | 683 | 11,012 | 1,188 | 115 | 1,150 | 2 | 555 | 14 |
| 4,526 | 1,371 | 2,227 | 641 | 6,753 | 2,012 | 8,765 | 1,231 | 322 | 1,258 | 300 | 574 | 7 |
| 1,073 | 542 | 599 | 810 | 1,672 | 1,352 | 3,024 | 933 | 342 | 735 | 515 | 538 | ... |
| 2,867 | 3,638 | 1,476 | 1,523 | 4,343 | 5,161 | 9,504 | 1,303 | 1,023 | 944 | 610 | 570 | ... |
| 1,151 | 819 | 397 | 135 | 1,548 | 954 | 2,502 | 1,157 | 203 | 931 | 148 | 542 | ... |
| 1,697 | 1,666 | 824 | 823 | 2,521 | 2,489 | 5,010 | 1,131 | 523 | 870 | 424 | 550 | ... |

| Years. | CULVERTS UNDER EMBANKMENT. | | | | TOTAL BRITISH CANAL AND DIRECT. | | |
|---|---|---|---|---|---|---|---|
| | *Two Culverts.* | | *Total direct, columns 20 to 27.* | | | | |
| | Kharif. | Rabi. | Kharif. | Rabi. | Kharif. | Rabi. | Total. |
| 1 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 1902-03 ... ... | 21 | 34 | 3,311 | 55 | 8,109 | 1,664 | 9,773 |
| 1903-04 ... ... | 47 | 30 | 3,054 | 1,765 | 9,775 | 11,366 | 21,141 |
| 1904-05 ... ... | ... | ... | 2,893 | 131 | 13,932 | 2,440 | 16,372 |
| Triennial average ... | 23 | 21 | 3,086 | 650 | 10,605 | 5,157 | 15,762 |
| 1905-06 ... ... | 33 | 29 | 2,239 | 886 | 8,862 | 4,736 | 13,598 |
| 1906-07 ... ... | 17 | 73 | 2,834 | 1,706 | 9,751 | 12,010 | 21,761 |
| 1907-08 ... ... | 21 | 23 | 2,651 | 374 | 7,984 | 1,632 | 9,616 |
| Triennial average ... | 24 | 42 | 2,575 | 989 | 8,866 | 6,126 | 14,992 |

DIX 30 E.—*concluded.*

| RIVER IRRIGATION FROM BELOW WEIR. | | | | | | IRRIGATION FROM ALL SOURCES. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BRITISH. | | | BIKANRR. | | | BRITISH. | | | BIKANER. | | |
| Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. |
| 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| Acres. | Acrss. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 106 | 2,641 | 2,747 | ... | 6,709 | 6,709 | 8,215 | 4,305 | 12,520 | 4,463 | 7,878 | 12,341 |
| 179 | 6,817 | 6,996 | ... | 9,162 | 9,162 | 9,954 | 18,183 | 28,137 | 5,467 | 13,345 | 18,812 |
| ... | ... | ... | ... | ... | ... | 13,932 | 2,440 | 16,372 | 10,329 | 683 | 11,012 |
| 95 | 3,152 | 3,247 | ... | 5,290 | 5,290 | 10,760 | 8,309 | 19,009 | 6,753 | 7,302 | 14,055 |
| ... | ... | ... | ... | ... | ... | 8,862 | 4,736 | 13,598 | 1,672 | 1,352 | 3,024 |
| ... | ... | ... | ... | ... | ... | 9,751 | 12,010 | 21,761 | 4,343 | 5,161 | 9,504 |
| ... | ... | ... | ... | ... | ... | 7,984 | 1,632 | 9,616 | 1,548 | 954 | 2,502 |
| ... | ... | ... | ... | ... | ... | 8,856 | 6,126 | 14,992 | 2,521 | 2,484 | 5,010 |

# APPE

## MINOR IRRIGA

## RAVI INUND

STATEMENT SHOWING TH

| Serial No. | Names of canals. | Length in miles on 31st March 1908. | Area at settlement. | Average of the triennial period ending 31st March 1905. | | | Area irrigated, | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 1905-06. | | | 1906-07. | | |
| | | | | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | | Miles. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| 1 | Deg ... | 23·00 | 33,139 | 1,751 | 2,016 | 3,767 | 1,932 | 4,533 | 6,465 | 1,382 | 4,540 | 5,92 |
| 2 | Sukhrawa ... | 27.24 | 40,274 | 1,174 | 2,550 | 3,724 | 5,148 | 5,774 | 10,922 | 1,010 | 7,799 | 8,80 |
| 3 | Nikki ... | 23·91 | 60,826 | 1,972 | 2,535 | 4,507 | 7,721 | 6,328 | 14,049 | 4,477 | 8,047 | 12,51 |
| 4 | Jherku ... | 11·40 | 12,450 | 8 | 238 | 246 | 20 | 857 | 877 | 21 | 684 | 70 |
| | Total ... | 85·55 | 146,689 | 4,905 | 7,339 | 12,244 | 14,821 | 17,492 | 32,313 | 6,890 | 21,070 | 27,96 |
| | Failed or damaged crop (Kharaba). | ... | ... | 479 | 418 | 897 | 18 | 4 | 22 | 13 | 32 | 4 |
| | Grand Total ... | ... | ... | 5,384 | 7,757 | 13,141 | 14,839 | 17,496 | 32,335 | 6,903 | 21,102 | 28,00 |

# DIX 30 F.

## TION WORKS.

## TION CANALS.

### WORKING OF THE CANALS.

| ACRES. | | | AVERAGE OF THE TRIENNIAL PERIOD ENDING 31ST MARCH 1908. | | | DATES OF OPENING AND CLOSING. | | | | | | AVERAGE OF 3 YEARS ENDING 31ST MARCH 1908. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1907-08. | | | | | | 1905-06. | | 1906-07. | | 1907-08. | | | |
| Kharif. | Rabi. | Total. | Kharif. | Rabi. | Total. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. | Opening. | Closing. |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | | | | | | | | |
| 1,932 | 630 | 2,562 | 1,749 | 3,234 | 4,983 | 12th July 1905. | 29th Septr. 1905. | 6th July 1906. | 3rd Octr. 1906. | 24th June 1907. | 1st Septr. 1907. | 4th July 1907. | 21st Septr 1907. |
| 1,077 | 970 | 2,047 | 2,411 | 4,848 | 7,259 | 22nd April 1905. | 4th Octr. 1905. | 25th May 1906. | 5th Octr. 1906. | 21st May 1907. | 5th Septr. 1907. | 13th May 1907. | 25th Septr. 1907. |
| 4,591 | 1,557 | 6,148 | 5,596 | 5,311 | 10,907 | 1st April 1905. | 12th Octr. 1905. | 10th May 1906. | 10th Octr. 1906. | 19th May 1907. | 11th Septr. 1907. | 30th April 1907. | 1st Octr. 1907. |
| 3 | 86 | 89 | 15 | 542 | 557 | 15th April 1905. | 20th Septr. 1905. | 7th Augt. 1906. | 15th Sept. 1907. | 7th Augt. 1907. | 14th Augt. 1907. | 30th June 1907. | 8th Septr. 1907. |
| 7,603 | 3,243 | 10,846 | 9,771 | 13,935 | 23,706 | | | | | | | | |
| 612 | 4 | 616 | 215 | 13 | 228 | | | | | | | | |
| 8,215 | 3,247 | 11,462 | 9,986 | 13,948 | 23,934 | | | | | | | | |

Punjab Government Press, Lahore—4 5·09—92—405—P. B. S.

UNIVERSITY OF ILLINOIS-URBANA
3 0112 070510844

# REVENUE REPORT

OF THE

# IRRIGATION DEPARTMENT, PUNJAB,

## FOR THE TRIENNIAL PERIOD

## 1905-1906 TO 1907-1908.

Price:—Rs. 3-12-0 or 5 shillings 6 pence.

Lahore:
PRINTED AT THE PUNJAB GOVERNMENT PRESS.
1909.